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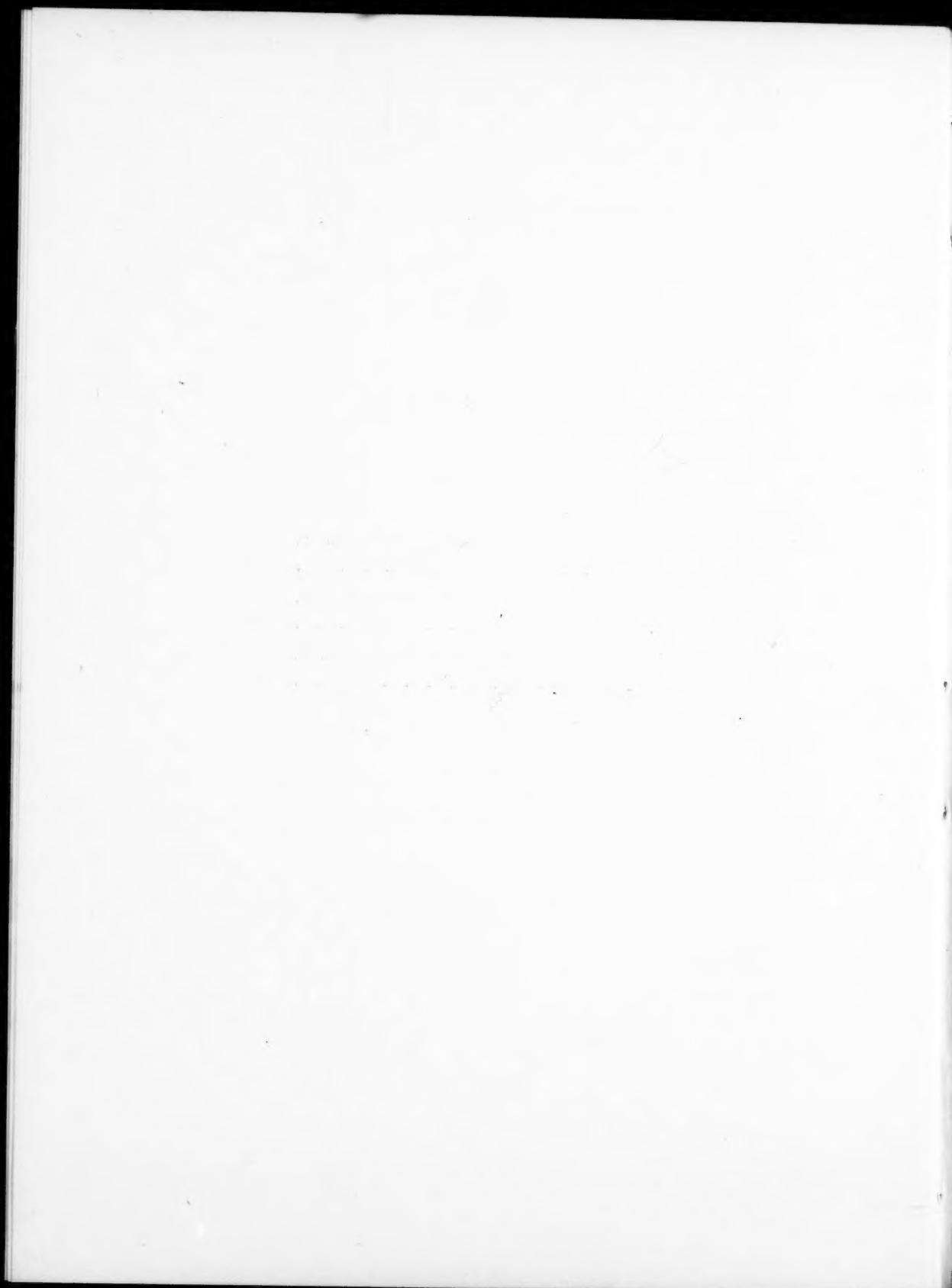
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SEARCHING FOR ANCIENT REMAINS IN LOWER 'IRÂQ

REPORT OF AN ARCHAEOLOGICAL SURVEY MADE IN SOUTHERN BABYLONIA DURING
THE FIRST QUARTER OF 1926

RAYMOND P. DOUGHERTY

YALE UNIVERSITY

(On Leave from Goucher College during Survey)

I. GENERAL FEATURES OF THE SURVEY

The work described in this report was made possible primarily by the Trustees of the American Schools of Oriental Research. Gratitude should be expressed to them for the opportunities which were afforded and for the support which enabled the survey to be more extensive than originally thought possible. Large credit for the results attained belongs to Goucher College, which, due to the interest of President W. W. Guth, granted a year's leave of absence. In addition, the camera used for general and scientific photography in 'Irâq was presented by Goucher teachers and students. Knowledge of methods of débris examination and pottery identification was gained in an archaeological tour with Dr. Albright in Syria, down the Euphrates, and along the Tigris.¹ The unstinted help of the 'Irâq Government was extremely gratifying. This was exhibited not only by the Antiquities Department in Baghdâd, headed at the time by Miss Gertrude L. Bell, but also by other officials. Special mention should be made of Mr. A. L. F. Smith, Mr. R. S. Cooke, Mr. B. C. Newland, and Mr. A. J. Booth of Baghdâd, Mr. E. C. H.

¹ *Bulletin of the American Schools of Oriental Research*, 21, pp. 1-21. The following abbreviations are used in this report: *AENN* = Dougherty, *Archives from Erech, Time of Nebuchadrezzar and Nabonidus*, *GCCI* Vol. I; *AJSL* = *American Journal of Semitic Languages*; *CD* = Muss-Arnolt, *A Concise Dictionary of the Assyrian Language*; *GCCI* = *Goucher College Cuneiform Inscriptions*; *Grice Chrn* = Grice, *Chronology of the Larsa Dynasty*, *YOR* IV 1; *JAOS* = *Journal of the American Oriental Society*; *JRAS* = *Journal of the Royal Asiatic Society*; *MDOG* = *Mitteilungen der Deutschen Orient-Gesellschaft*; *OBW* = Barton, *The Origin and Development of Babylonian Writing*; *RECC* = Tremayne, *Records from Erech, Time of Cyrus and Cambyses*, *YBT*, Vol. VII; *REN* = Dougherty, *Records from Erech, Time of Nabonidus*, *YBT* Vol. VI; *RUL* = Grice, *Records from Ur and Larsa*, *YBT* Vol. V; *SAKI* = Thureau-Dangin, *Die Sumerischen und Akkadischen Königsinschriften*; *SBD* = Dougherty, *The Shirkâtu of Babylonian Deities*, *YOR* V 2; *UMBS* = *University of Pennsylvania. The Museum Publications of the Babylonian Section*; *VS* = *Vorderasiatische Schriftdenkmäler*; *YBT* = *Yale Oriental Series, Babylonian Texts*; *YOR* = *Yale Oriental Series, Researches*; *ZA* = *Zeitschrift für Assyriologie*.

Alban and Captain Corry of Nâṣirîya, and Mr. Kitching and Captain Furneaux of Dîwâniya. The writer is deeply indebted to all who helped in any way.

Purpose of the Survey. The land which was occupied by Sumerian, Babylonian, and Assyrian civilizations and by Persian, Greek, Parthian, and Mohammedan cultural communities has preserved hundreds of ruins of all periods. Comparatively few have been identified. *Terra incognita* is a term which can be applied to certain districts of southern Babylonia in particular. Sir Henry Rawlinson recognized the value of charting the ancient sites of Mesopotamia and sponsored a plan for the survey of Babylonia, but conditions prevented its accomplishment.² An archaeological survey would seek by means of surface investigation and trial excavations to find out as much as possible of the history of each spot which was inhabited long enough to produce an appreciable accumulation of débris. If discovered data permitted, this would mean the determination of the origin, duration and name of each former center of population in the Tigris-Euphrates valley, the final result being a complete archaeological map of the land of 'Irâq. After counsel with Mr. C. Leonard Woolley a plan for such an archaeological survey, as the special continuing work of the American School of Oriental Research in Baghdâd, was devised, with the sanction and help of Miss Bell and the approval of the Trustees, by Dr. Edward Chiera, of the University of Pennsylvania, the annual professor in Baghdâd in 1924-25.³ As his successor in the Baghdâd School in 1925-26 the writer undertook to begin the survey.

Area of the Survey. After reaching Baghdâd from Aleppo on November 17, 1925, it was necessary to obtain official advice and permission with reference to the limited portion of 'Irâq in which the survey should be initiated. Miss Bell without hesitation named the area in southern Babylonia between the Shatt el-Hilla, a present channel of the Euphrates, and the Shatt el-Kâr, a former channel of the Euphrates, as a good starting-point. Later the region of the Shatt el-Hai, a stream fed by the Tigris, was included in the permit issued by the Antiquities Department. The privilege of going as far as the Tigris was granted, but only a small part of the territory east of the Shatt el-Hai was covered. In Map 1 the shaded part, almost triangular in shape, between Babylon and Basra, indicates the district which was investigated. In Map 2 the surveyed area, comprising about 4000 square miles, is shown in detail. The 31st and 32nd parallels of north latitude and the meridian lines represented by 45° and $46^{\circ} 30'$ east longitude, minus the part

² Hilprecht, *Explorations in Bible Lands during the 19th Century*, p. 67.

³ *Bulletin of the American Schools of Oriental Research*, 20, pp. 20-22.

which lies west of the Shatt el-Hilla, form the approximate limits of the survey. Pages 73-76 should be consulted for Maps 1-4.

Time of the Survey. The best period of the year for topographical observation in southern 'Irâq is from November to February inclusive. Floods make travelling very difficult from March until May or June. Even in February rising waters may hinder to some extent. In August the heat becomes intense. Half the season suitable for an archaeological survey passed before the writer could begin, as the actual start was not made from Baghdâd until Christmas day, 1925. This delay was necessary. About two weeks were spent with Dr. Albright in a helpful study of many of the prominent mounds of Assyria and Babylonia. In addition, important interests of the American School of Oriental Research in Baghdad demanded attention, and final negotiations with reference to the survey had to be made. The periods actually given to the work, including journeys to and from the field of operations, were December 25 to January 27 and February 12 to March 16, amounting to a little over nine weeks, exclusive of the interval of two weeks which was spent in Baghdad.

Preparations for the Survey. Early in December during the tour with Dr. Albright in southwestern Babylonia preliminary arrangements were made with the authorities of the 'Irâq Government in Nâṣîriya and Dîwâniya as to the equipment, supplies, transportation, and guards necessary for the survey. The best possible itinerary was also discussed. It was stimulating to receive assurances of full coöperation. Helpful suggestions and practical advice were the result of conferences with Mr. Woolley and Dr. Legrain at Ur. On different occasions, after returning to Baghdad, many hours were spent with Mr. Newland and Mr. Booth of the Surveys Department, and they withheld nothing in the way of instruction and information. All available maps giving data concerning the area about to be investigated were purchased.* The simple instruments required for archaeological surveying were kindly lent by the Surveys Department. A tent was bought and food supplies for emergency were procured in Baghdad and Nâṣîriya.

Itinerary of the Survey. The itinerary of the survey may be described briefly, including only the main stopping-places and the important mounds visited. The route taken during the first part of the survey was as follows:

* As the result of accurate surveys, English maps of 'Irâq in sections have been made since the Great War, one set on the scale of 1 inch = 2 miles and another on the scale 1 inch = 4 miles. These surveys, although they indicate the positions of many ancient mounds, do not furnish any archaeological data. Some sections, particularly the Shatt el-Kâr region, have not been investigated and are marked "Unsurveyed."

Northwest from Nāṣirīya to Warka; southeast from Warka to Tell Senkerā; north and northwest through the Shāṭ el-Kār region with an examination of Tell Ede and Tell Hammām; a few days' stop at Maradiya in order to study Fāra and Abū Ḥaṭab; northeast to Bismāya; west to 'Ibra which permitted a study of Tell Dulaihim; south to Suwaid which was used as a center for the study of Ishān Bahriyāt and El-Bahri Sharqi; northwest from Suwaid to Tell 'Aqbi and then northeast to Badr, from which two trips were made to Ishān Ḥāfudh; slightly northwest to 'Afaj, which was used as a center for the study of Tell Drehem and Tell Nuffar; west to Dīwānīya by automobile; south and southeast to Rumaitha with a study of Tell Misrij, Abū Sijim, Ishān el-Hamra, and Umm ud-Dūd. The route taken during the second part of the survey was as follows: East of Rumaitha and northeast of Samāwa in order to study numerous mounds; southeast of Samāwa to Khidhr, from which Warka was again visited; from Khidhr to Nāṣirīya by rail and then to Shāṭra on the Shāṭ el-Ḥai by automobile; from Shāṭra up the Shāṭ el-Ḥai by boat as far as Qal'at Sikar, visiting Tello, Ishān Abū 'Amūd, Tell er-Rasāfa, and other mounds; south on the Shāṭ el-Ḥai to Shāṭra from which Tell Medīna was visited; east of Shāṭra as far as Dawīya; south from Dawīya over the flooded district as far as the Hammār Lake, visiting Ishān el-Hibba and Surghul; northwest on the Euphrates to Nāṣirīya.

Methods of the Survey. The manner of conducting the survey was determined by its archaeological purpose.

1. The aim was to discover different possible procedures in conducting an archaeological survey with a view to suggesting methods to future participants in the work.
2. An effort was made to study all the mounds that could be reached in the area which the permit designated. This helped in the correlation of results.
3. As many detailed facts as possible were gathered from each site the débris of which indicated archaeological importance.
4. Maps were constantly used for the purpose of locating known mounds and charting unrecorded mounds.
5. Arabs living in the vicinity of a mound were questioned with regard to its name and character.
6. Examples of decorated pottery, worked flints, stamped bricks, etc., were obtained wherever they existed. Other antiquities could be bought at times from local Arabs.
7. Extensive notes were made of all observations, sometimes on the spot, sometimes in camp at night.

8. Photographs of mounds and their important features were taken unless dust storms or misty weather prevented. The films were bought from a Baghdâd photographer and satisfactorily developed by him.

9. The survey was confined almost entirely to surface examination. Although the permit allowed trial excavations, it was not found possible to do much digging.

10. Distances on the level were measured with the help of a pace meter. This permitted surface examination while measurements were being taken.

11. The approximate elevation of a mound was determined by walking up its slope and finding out how many times the distance between foot level and eye level was contained in its height.

12. Direction and triangulation were secured by means of a good prismatic compass.

13. Measurements requiring great exactness were made by means of a tape measure.

14. The country surrounding a mound was examined from its summit for other mounds by means of a field glass.

Report of the Survey. A preliminary report of the survey in narrative form has been published.⁵ The present report aims to describe the general results of the survey in greater detail and with more mature conclusions. It is not possible to offer an exhaustive study of the pottery types of southern 'Irâq in this number of the ANNUAL. Neither has there been time to prepare a suitable discussion of the seal cylinders and seal impressions which were obtained. Articles dealing with these two subjects, *viz.*, pottery and seals, will be offered to readers of the ANNUAL at some future time. In addition, special studies of certain phases of the survey will be prepared. The object is to make all the results of the survey available to those who are interested in the archaeological investigation of 'Irâq. In order to secure uniformity in the present report all Arabic words and names with the feminine ending are transliterated without final *h*. An index of sites will be found on page 93.

II. VARIED ASPECTS OF THE SURVEY

Monotony is not a feature of the archaeologist's search for evidences of past life in southern 'Irâq. His program is one of great variety. New scenes are constantly rising before him and unexpected problems require solution from day to day. The necessity of conversing in colloquial Arabic adds to the diversity of his experiences. With each sunrise he faces the possibility of an important discovery. This is just as likely to occur at some

⁵ *Bulletin of the American Schools of Oriental Research*, 23, pp. 15-28; 25, pp. 4-13.

low-lying *tell* as at some high mound. A tiny object may reveal a significant fact as to a site's place in history. Hence the eye must be trained to quick and careful observation. There is so much fascination in the examination of débris replete with ancient remains that difficulties and dangers are forgotten. For completeness of record, however, a discussion of certain aspects of the survey cannot be omitted.

Desert Terrain. Extreme aridity characterizes large sections of the surveyed area. In ancient times these wide stretches of parched soil were irrigated and must have presented a flourishing appearance when covered with numerous groves of date-palms interspersed with fields of growing barley. Today the traveler wanders in a desolate land. Not a tree is to be seen for days at a time, and the Bedouin pastures his flocks and herds with difficulty. In the heart of the desert at a distance from the main waterways only the black tent of the nomad can be found. The alluvial plain, so far as observed, contains no natural springs, and hence there are no oases as in Arabia. A group of wandering Arabs is often encamped where a moist condition of the earth produces a little herbage and yields a brackish liquid if a well is dug. All the water of this region is more or less unfit to drink. Fortunately its unpleasant taste can be overcome and its dangerous germs avoided by drinking hot tea, which is a popular beverage everywhere in 'Irāq. Coffee, thick and bitter, is served only in small quantities.

Prevalence of Mirages. In the dry regions of southern 'Irāq, as in all deserts, the mirage is very common. To one on an ordinary journey through the land mirages cause little trouble. They are a real hindrance, however, to the work of an archaeological survey. A low mound may be practically removed from vision by distortions and reflections due to the operation of light upon different atmospheric layers. This often proves a serious barrier to accurate investigation. Furthermore, a mirage has a tendency to blot out the lower parts of high elevations by the interception of unreal bodies of water. Another effect is to lower the line of the horizon and thus to accentuate prominences at a distance. Sometimes when mounds are reached they prove insignificant in comparison with the first impressions gained of them. These peculiarities of perspective in the desert must never be forgotten.⁶

Sand Storms. When even a moderate breeze blows over the powdery surface of the desert a haze of sand is lifted into the air. If a strong wind arises, the sky is immediately darkened and the landscape effectively obscured. Objects visible one hour are entirely obliterated from sight the next. It was the writer's experience more than once to arrive at a mound when the

⁶ Layard, *Discoveries in the Ruins of Nineveh and Babylon*, p. 572.

atmosphere was clear and to look up after a round of absorbing inspection to discover that the eye could no longer discern any of the desert's prominent landmarks. This did not mean extreme danger, as Arabs are used to finding their way under such circumstances. However, work is unpleasant when the air is full of fine sand, and it was always found best to return to camp without undue delay.

Flooded Regions. The part of southern 'Iräq visited presents strong contrasts at certain times of the year, in that one may pass almost abruptly from the desiccation of the desert to large expanses of water caused by inundation. Beginning usually in February and rising rapidly in March there is an immense overflow from the Tigris which lasts several months. The Shaṭṭ el-Hai carries much surplus from the swollen Tigris through central southern Babylonia, where it forms extensive inland seas east of Shaṭra and Näsiriyä and to the southeast. In former times the Shaṭṭ el-Kâr acted as a similar distributor for the Euphrates. Today the main drainage of the Euphrates is to the west, although it still sends a great deal of water into regions immediately east of it. When the time of year arrives for the abatement of floods, many submerged districts become entirely arid. During the hot, dry season cracks in the soil, stubs of reed stalks, and hardened hoof-prints of water buffaloes indicate areas which a short time before were marshes or shallow lakes.

Amount of Rain. A superabundance of water in the lower Tigris-Euphrates valley is not caused by local downpours. The main source of supply is in distant highlands, as the average annual rainfall in southern 'Iräq is not more than 10 inches.⁷ Hence there was little inconvenience from inclement weather during the survey. Only once was there a driving rain while the expedition was on the march. At another time wind and rain delayed journeying by boat up the Shaṭṭ el-Hai. Fortunately the surface of the ground dries very quickly even after a heavy shower. Sometimes there was a dense mist early in the morning, but this cleared as the sun rose higher above the horizon. Contrary to expectation, no frost was observed even during the coldest days and nights in January.⁸

Travel on Land. Regular transportation is furnished by the 'Iräq Railways north of Baghdâd as far as Kerkûk and south of Baghdâd as far as Basra. The line from Baghdâd to Ur Junction has stations convenient for

⁷ Cf. Dana, *Arab Asia*, p. 72.

⁸ Previous explorers have experienced cold and frosty weather. See Fraser, *Travels in Koordistan, Mesopotamia, etc.*, 2, pp. 140, 146; Loftus, *Travels and Researches in Chaldaea and Susiana*, p. 146; Layard, *op. cit.*, p. 546.

stops at all important places bordering on the surveyed area, such as Dîwâniya, Rumaitha, Samâwa, Khidhr, and Ur Junction. A branch line facilitates travel from Ur Junction to Nâṣirîya. From Dîwâniya there is a good automobile road to the east as far as 'Afaj and 'Ibra. One can journey in the same way from Nâṣirîya to the north as far as Shaṭra.^{8a} Camels and horses are available for the desert. The latter were used in order to cover ground more rapidly. For the first part of the survey, which included the trip through the Shaṭṭ el-Kâr region, two horses and two mules were hired at about \$3.75 per day for the four animals, with no extra payment for their feed or the two Arab attendants who accompanied them. A third Arab attendant, who acted as a cook and general servant, was paid at the rate of \$11.50 a month. During the second part of the survey excellent mounts were furnished without charge by 'Irâq Police officials. These well-trained horses added much to the enjoyment of riding over the desert.

Travel on Water. Wherever there are navigable streams Arab-built boats and Arab boatmen may be hired. The standard wage for a boat and three boatmen seems to be about \$1.00 a day, with the understanding that the boatmen buy their own food. However, Arabs show more good humor and willingness to work if a few extras are given to them at times, such as tea, sugar, and tobacco, three things which seem to be indispensable to their enjoyment of life. Arabs equip their boats with oars, poles, a sail, and a long rope. The boat is kept moving, as occasion requires, by any one of these methods of propulsion or by a combination of them. The rope running through an opening at the top of the mast, which enables it to be lengthened or shortened by the helmsman at the stern, is used by boatmen on the shore for drawing the vessel upstream (Fig. 60).

Military Escort. Although great progress has been made in the pacification of 'Irâq, life in the southern part of the country is not so settled today as it is in Palestine, where one may travel at will without danger. There have been serious Arab tribal uprisings in the region between Baghdâd and Basra since the close of the World War. It is the policy of the 'Irâq Government to furnish police protection to anyone engaged in official work requiring hazardous traveling. Hence the survey, as a project undertaken for the 'Irâq Government as well as for the American School of Oriental Research

^{8a} Mr. E. C. H. Albân of Nâṣirîya has reported to the writer, in a letter dated June 13, 1927, that a motor road has just been built from Shaṭra on the Shaṭṭ el-Hai to the Shaṭṭ el-Kâr via Suwaij, and that it is possible now to motor from Shaṭra to Dîwâniya in 4 or 5 hours. Tell Senkera is at present a run of only 2 hours from Shaṭra. Other mounds, such as Warka, Tell Ede and Jôkha, may be reached easily by car.

in Baghdâd, was conducted with an ample contingent of armed Arabs, ranging in number, as circumstances required, from two to six or eight. They acted as efficient guards and guides and their companionship enlivened the expedition with pleasant experiences. At times their presence was a slight disadvantage because it was difficult for them to understand the true purpose of the survey. However, this was more than counterbalanced by the actual service rendered by them. With the aid of half of any particular contingent it was possible to dispatch tent and baggage direct to the next camping place, while mounds off the direct road were studied under the protection of the remaining guards. Some of the more willing became proficient in gathering specimens of flints, sherds, etc., at the mounds which were visited. The success and safety which characterized the survey must be ascribed in large measure to the members of the 'Irâq Police which accompanied it.

Hospitality of Arabs. The proverbial generosity and cordiality of the Arab as a host were experienced daily. Sheikh after sheikh entertained all the members of the expedition with lavish meals. It is the law of desert life that the friendly stranger must be supplied with food and shelter. However, most sheikhs are not prepared to entertain for more than two or three days at a time. On the other hand it is likely that a sheikh would feel humiliated in the eyes of his people if travelers should prolong their stay in his town by depending upon their own food supplies. For this reason it was difficult to remain many days in the town of any particular sheikh.

Maintenance of Health. Keeping well while making an archaeological tour through a region such as southern Babylonia is essential to success. Care must be observed as to food and drink. Possibly there is a measure of hazard no matter what precautions are taken. The amount of risk, if Arab hospitality is accepted freely, depends upon one's digestive powers. Fortunately, much time spent in the open air and plenty of exercise from riding help to ward off illness. Malaria and dysentery are to be feared in southern 'Irâq. It is prudent to have a good supply of all general remedies, not only for personal use, in case of need, but for dispensing where sickness exists. The greatest discomfort comes from innumerable flea bites. However, plague is rare in the open stretches of the desert.

Dealings with Arabs. Adapting oneself to life among the Arabs is not hard, as the simple rules of friendship and comradeship overcome all obstacles. There should be as much conformity as possible to Arab customs, but the wearing of Arab garb is not necessary in 'Irâq. Sheikhs should be treated with the utmost respect. The spirit of democracy which exists in an Arab community is a great asset, and the use of colloquial Arabic is very helpful.

At times altercations arise among Arabs. It is best to maintain an aloofness under such circumstances, as quarrels subside quickly and are forgotten. Arabs are much given to a feeling of amusement and hilarity. To appeal to this side of their nature is the surest road to their allegiance.

Local Interest in Antiquities. Since the beginning of the era of excavations in 'Irāq the native population has become increasingly aware of the intrinsic worth of antiquities, and an interest in searching for them has developed.⁹ In many sections the disappearance of a dependable supply of water has driven some of the Arabs away and caused those remaining to seek more strenuously for objects of archaeological value. Unless special permission is secured from the 'Irāq Government, any effort to obtain antiquities from mounds is illegal. However, even where Arabs refrain from extensive operations there is some tendency on their part to go over a mound, usually after a heavy rain, looking for seal cylinders, amulets, tablets, etc. During the survey many sheikhs inquired eagerly as to whether a campaign of digging was being planned. Evidently the work offered by the thorough excavation of a mound is regarded as a boon.

Investigation of Existing Conditions. The weeks which were spent in Arab towns and villages made possible a fascinating observation of the customs and practices of the present inhabitants of southern 'Irāq. Groups of reed huts, houses of clay, fortresses with strong towers, and pretentious abodes of sheikhs gave opportunity for a study of architectural forms. Methods of soil cultivation, irrigation, and transportation were subjects of constant inquiry. This investigation was no more than a pleasant diversion at first, but its value became apparent as the survey progressed. It was especially interesting to note the mode of life of the so-called Marsh Arabs.

Degree of Archaeological Investigation Possible. The foregoing discussion indicates that the work of the survey was affected by many different circumstances. The amount of investigation possible was limited, as all hindrances and difficulties could not be overcome. For this reason the program had to be one of rapid surface examination. Under favorable conditions a survey of a different character might be undertaken. A stop of a week might be made at each important mound. This would permit more exhaustive study of all remains above ground and, with the help of local diggers, give opportunity for making trial excavations sufficiently deep to unearth walls which might contain inscribed bricks *in situ*. There would be more chance also for the discovery of cuneiform tablets which would aid greatly in site identification.

⁹ Zehnpfund, *Babylonien in seinen wichtigsten Ruinenstätten*, *Der Alte Orient*, 11, 3-4, p. 27.

In the eyes of local Arabs such an archaeological expedition would be more than a mere caravan passing through the country, and hence the duty of regulating one's stay by a sheikh's bounty would not be so imperative. The writer as a beginner in the work does not claim to have attained the highest possible efficiency. Those who are destined to assume the responsibility of continuing the survey may discover better methods for the accomplishment of the task.

III. FORMER INVESTIGATIONS IN THE SURVEYED AREA

The part of 'Irâq between the Tigris and the Euphrates rivers south of the ruins of Babylon received practically no attention from explorers before 1835. Those who travelled in Mesopotamia in the eighteenth century and in the early part of the nineteenth century were interested mainly in the cities of Mosul and Baghdâd and in the sites of Niniveh and Babylon.¹⁰ The maps published by Ker Porter¹¹ in 1821 and Buckingham¹² in 1827 contain no details for lower 'Irâq. It was natural that early eagerness to investigate the remains of Babylon should have prevented exploration in the region to the south, the penetration of which was difficult on account of the marshy condition of its terrain and the wild state of its inhabitants.

A. Explorations in the Surveyed Area

It will be helpful to review in chronological order former exploring tours and scientific surveys made in different sections of the area with which this report is concerned. Many valuable topographical and archaeological observations are recorded in the published accounts of these journeys.¹³

Fraser. In January, 1835, J. Bailie Fraser, accompanied by Dr. Ross, completed the first tour by any European in the central part of southern 'Irâq. In his narrative he describes the Shatt el-Kâr and makes particular mention of having visited Tell Senkera and Tell Hammâm. Warka, Jôkha, and Tell Ede were seen at a distance.¹⁴

Loftus. In visits to southern Babylonia from 1849 to 1854 W. K. Loftus,

¹⁰ Rogers, *History of Babylonia and Assyria*, 1, 106-157.

¹¹ *Travels in Georgia, Persia, Armenia, Ancient Babylonia*, etc., 1, facing p. 1.

¹² *Travels in Mesopotamia*, facing p. 1.

¹³ Others, such as Miss Gertrude L. Bell and Mr. C. Leonard Woolley, have investigated parts of the surveyed area, but no published reports of their tours are available. Of the tours which are summarized in this report only the visits in the surveyed area are cited.

¹⁴ Fraser, *op. cit.*, 2, pp. 82-89, 135-159.

a geologist, paid some attention to the Shatṭ el-Kâr region. Although he spent most of his time at Warka he interested himself also in Tell Senkera, Tell es-Şîfr, Tell Medîna, Tell Ede, Tell Hammâm, and Tell Nuffar, ancient Nippur. In addition to excavations at Warka, Loftus made soundings at Tell es-Şîfr and Tell Medîna.¹⁵

Layard. In January, 1850, A. H. Layard made an exploring tour through central Mesopotamia from Hilla to the 'Afaj swamps and Tell Nuffar. He had evidently planned to go farther south, but heavy rains and a severe illness prevented him.¹⁶

De Sarzec. In 1877 Ernest de Sarzec made a tour of inspection up the Shatṭ el-Hai from Sûq esh-Shuyûkh. He noticed a number of ancient sites and selected Tello as suitable for excavation.¹⁷ No available records indicate that he made any other explorations.

Ward. In 1885 during the last week of January and the first three weeks of February William Hayes Ward in his archaeological expedition touched the main mounds in the Shatṭ el-Daghâra, Shatṭ el-Hai, and Shatṭ el-Kâr regions. His diary, which is also a scientific report, describes interesting stops at Tell Nuffar, Bismâya, Tell Hammâm, Fâra, Jôkha, Tello, Ishân el-Hibba, Surghul, and Warka.¹⁸

Peters. Two exploring trips were made into southern Babylonia by Dr. John P. Peters in connection with his work at Tell Nuffar. The first, lasting from March 31 to April 5, 1889, gave opportunity for the examination of Tell Dulaihim, Tello, Jôkha, and Bismâya.¹⁹ The second, which occurred in May, 1890, included Bismâya, Tell Hammâm, Tell Ede, Jôkha, Tello, and Warka.²⁰

Sachau. In January, 1898, Professor Edward Sachau, accompanied by Robert Koldewey, journeyed down the Euphrates from Hilla. An expedition was made to Tell Nuffar from Diwâniyya. With Khidhr as a starting-point Warka and Tell Senkera were visited on the way to Shatra. From thence Baghdâd was reached by going up the Shatṭ el-Hai and the Tigris.²¹

Hilprecht. In the spring of 1900 Professor H. V. Hilprecht, accompanied

¹⁵ Loftus, *op. cit.*, pp. 159-278.

¹⁶ Layard, *op. cit.*, pp. 544-573.

¹⁷ Heuzey, *Découvertes en Chaldée par Ernest de Sarzec*, pp. 3, 4.

¹⁸ Peters, *Nippur*, 1, pp. 326-350.

¹⁹ Peters, *op. cit.*, 1, pp. 261-275.

²⁰ Peters, *op. cit.*, 2, pp. 269-306.

²¹ Sachau, *Am Euphrat und Tigris*, pp. 41-80; *MDOG*, 1, p. 8.

by J. H. Haynes, made an excursion to the south of Tell Nuffar for the purpose of studying ancient mounds. The débris at Abû Haṭab and Fâra was investigated.²²

Delitzsch. During the months of June and July, 1902, Professor Friedrich Delitzsch visited several sites in the southern part of Babylonia. The longest period, June 19 to July 13, was spent at Fâra. Warka was visited on July 20, and Tell Senkera on July 21.²³

Andrae. In December, 1902, W. Andrae made a week's tour through southern Babylonia from Fâra. He journeyed southwest until he almost reached Dîwâniyyâ and then went to Khidhr. The rest of his tour he spent in visiting Warka, Tell Senkera, Tell Ede, Jôkha, and Tell Hammâm. Andrae also explored a number of small mounds in the vicinity of Fâra and Abû Haṭab.²⁴

Banks. In 1903-1904 Professor E. J. Banks visited Tell Nuffar, Fâra, Abû Haṭab, Warka and Tell Senkera.²⁵ He speaks of going to Tell Drehem north of 'Ibra.²⁶ Banks journeyed from Bismâya, where he was excavating, to Kût on the Shatt el-Hai, and refers to the mounds in the district through which he travelled.²⁷

De Liedekerke-Beaufort. In the winter of 1913-1914 Comte Aymar de Liedekerke-Beaufort made an archaeological tour in Mesopotamia. The last part of it was spent in the region north of Sûq esh-Shuyûkh, along the Shatt el-Hai, etc. He speaks specifically of his visit to Surghul and presents interesting conclusions concerning the original coast-line of this territory.²⁸

Clay. In 1919-20 Professor A. T. Clay visited Tello and Tell Nuffar and made observations at many other mounds. In 1923-24 he again visited numerous mounds in southern Babylonia, among them being Tell Senkera.²⁹

Breasted. In March, 1920, the expedition conducted by Professor J. H. Breasted remained about three weeks in southern Babylonia. Tello, Jôkha, Tell Senkera, Warka, and Tell Nuffar were visited in the surveyed area.³⁰

²² Hilprecht, *op. cit.*, pp. 538-540.

²³ *MDOG* 15, p. 4; 47, pp. 46-54. Delitzsch, *Im Lande des Einstigen Paradieses*, pp. 42 ff.

²⁴ *MDOG* 16, pp. 16-30.

²⁵ Banks, *Bismya*, pp. 292-296, 409-418.

²⁶ Banks, *op. cit.*, p. 106 f. The mound north of 'Ibra is Tell Dulaihim and not Tell Drehem.

²⁷ Banks, *op. cit.*, pp. 277-288.

²⁸ *Babyloniaca*, 7, 2, pp. 105-116.

²⁹ *Bulletin of the American Schools of Oriental Research*, 3, p. 5; 13, p. 8.

³⁰ *AJSL* 38, pp. 240-243; *University Record* (Chicago), (Jan. 1921), 1, pp. 6-25.

Langdon. In 1924 Professor S. Langdon, after the completion of the season's work at Kish, visited Tell Drehem and Tell Nuffar on March 22. The following day he made an expedition southeast of 'Afaj to Ishân Bahriyat, where he dug a trench and discovered stamped bricks of two kings of the Isin Dynasty.³¹

Legrain. In 1925 Dr. L. Legrain, while assisting at the Ur excavations, visited Tello. In January, 1926, he visited Warka.³²

Albright. In December, 1925, Dr. W. F. Albright, studied the region between Nâsîriya and Sha'tra and also visited Tell Nuffar.³³

B. Excavations in the Surveyed Area

The findings of general archaeological investigation have been supplemented by campaigns of actual excavation. Sites where extensive digging has occurred in the region covered by this report are comparatively few in number but are widely scattered.

Warka. The earliest and the latest excavations in the territory investigated took place at Warka, the site of ancient Erech. In 1850 Loftus dug at Warka for a period of three weeks. His most extensive work at this collection of mounds was done during the first three months of 1854.³⁴ It was not until 1912 and 1913 that the next scientific digging was done at Warka by the Germans under the direction of Jordan and Preusser.³⁵

Tello. De Sarzac in eleven campaigns ranging from 1877 to 1900 and Cros in four campaigns ranging from 1903 to 1909 investigated under the auspices of the French Government the ruins of Lagash at Tello, near the Sha'tt el-Hai. Their splendid results indicate what can be recovered by persistence and scientific methods from the débris of important ancient cities.³⁶

Surghul and Ishân el-Hibba. At these two extensive mounds, lying east of the Sha'tt el-Hai and southeast of Tello, the first German excavations in

³¹ Langdon, *Excavations at Kish*, 1, pp. 105-112.

³² Legrain, *The Museum Journal*, Sept. 1926, pp. 264-269.

³³ Albright, *JAOS* 43, 3, pp. 226 ff.

³⁴ Loftus, *op. cit.*, pp. 159-220; Hilprecht, *op. cit.*, pp. 140-152; Zehnpfund, *op. cit.*, pp. 48-52.

³⁵ *MDOG* 51, pp. 47-76; 53, pp. 9-17; Rogers, *op. cit.*, 1, pp. 330-333.

³⁶ Heuzey, *op. cit.*; Heuzey and Thureau-Dangin, *Nouvelles Fouilles de Tello par le Commandant Gaston Cros*; Zehnpfund, *op. cit.*, pp. 33-42; Hilprecht, *op. cit.*, pp. 218-260. For other references consult Rogers, *op. cit.*, 1, pp. 298-300.

Babylonia occurred in the early part of 1887. They were directed by Moritz, Koldewey, and Meyer under the auspices of the Royal Prussian Museums of Berlin. The excavations lasted from January 4 to February 26 at Surghul and from March 29 to May 11 at Ishân el-Hibba. The most important remains uncovered were funereal.³⁷

Tell Nuffar. The first American archaeological project in the surveyed area consisted of four campaigns of excavation at Tell Nuffar, the site of ancient Nippur, during a period ranging from 1889 to 1900. This work was directed for the Museum of the University of Pennsylvania by Peters and Haynes. The enterprise was rewarded with the finding of many valuable cuneiform documents.³⁸

Fâra and Abû Haṭab. Excavations with interesting, though not extensive results were conducted at these two mounds in 1902 by Andrae and Noeldeke. The former site represents ancient Shuruppak; the latter ancient Kisurra. Some valuable archaic tablets were found at Fâra.³⁹

Bismâya. Chicago University followed in 1903 and 1904 with excavations at Bismâya, ancient Adab, under the direction of Banks. The results obtained were considerable and indicate that much more could be expected from successive campaigns at Bismâya for a number of years.⁴⁰

IV. DETAILED ACCOUNT OF THE SURVEY

The detailed account of the survey made by the writer centers about prominent districts in the area which was investigated. Hence it will be best to discuss what was accomplished in these districts without attempting to describe results in unbroken chronological order. However, the main stages of the itinerary will not be disregarded.

A. From Nâṣirîya to Warka and Tell Senkera

The typical sites visited include small mounds along the Euphrates, the wide-spreading and impressive ruins of Warka, and the moderately high elevations of Tell Senkera.

³⁷ Koldewey, *Die altbabylonischen Gräber in Surghul und El Hibba*, ZA 2, pp. 403-430; Hilprecht, *op. cit.*, pp. 280-288; Zehnpfund, *op. cit.*, pp. 42-48.

³⁸ Fisher, *Excavations at Nippur, Babylonian Expedition of the University of Pennsylvania*; Peters, *op. cit.*, 1 and 2; Hilprecht, *op. cit.*, 289-568; Zehnpfund, *op. cit.*, pp. 14-26.

³⁹ MDOG 17, pp. 4-35; Zehnpfund, *op. cit.*, pp. 27-29.

⁴⁰ Banks, *op. cit.*

1. Small Mounds along the Euphrates

During the first few days of the survey some difficulty was experienced in holding the members of the expedition to a properly organized plan of work. This should not be surprising, as Arab guards and, least of all, Arab attendants could hardly be expected to comprehend at once the purpose of an archaeological tour. On this account only a hasty examination could be made of the small mounds scattered between Nāṣirīya and Warka at varying distances from the Euphrates. Much of this region is flooded during the time of high water. Some of the insignificant mounds marked on the map of the Surveys Department could not be found. Their slight elevation, which causes them to be barely visible as low islands during the period of shallow submergence, makes their detection difficult during the dry season when their identity is more or less lost in the general level of the plain. Search in the immediate vicinity of where such mounds were supposed to be failed to reveal them. It is possible also that repeated inundations may tend to obliterate easily-recognizable traces of thin layers of débris. Mounds larger in area and more conspicuous in elevation were found with practically no difficulty, since their names are charted with accuracy. Brief descriptions will suffice for these remains of former occupation along the Euphrates between Nāṣirīya and Warka. None of them furnished evidences of belonging to Babylonian days, as no inscribed bricks were found. Map 3 shows where the mounds are located.

Abū Khumbara. An insignificant *tell* with pottery of no noteworthy characteristics.

Tell Ubayidh. A very small *tell* with a number of still smaller collections of débris near it. Search revealed no remains of structures and nothing distinctive in the way of pottery.

Tell Halawīya. A small, low-lying mound, with examples of thin sherds of fine texture. A piece of pottery was found marked with crudely incised ornamentation.

Safīra. Remains of a former town with no elevations above the surrounding plain. Lines of different colored earth preserving the outlines of houses, etc., were observed. There was considerable pottery, but none which indicated antiquity. This site may represent a short period of occupation or an older settlement with most of the débris washed away by repeated floods.

Umm es-Sibā'. A moderately low, somewhat extended mound with minor mounds near it. A few finely-worked flints were found. The pottery frag-

ments proved valueless as a means of dating. Many sherds showed evidences of poor firing.

Abû Ḥail. A small *tell* with Arab water-pits. No important surface remains were discovered.

Qal'at Mutni. Ruins of a fortress upon a low mound. Thick blocks of clay mixed with straw were found. This indicates that the original walls were of considerable size. Pottery of a very common type was observed.

Abû Dhikr. A small *tell* with practically nothing remaining in the way of ruins.

Ishân Abû Turaif. This mound, although it is much smaller than Umm es-Sibâ', is similar to it in surface remains.

Tell Shaîsh. A site composed of two distinct mounds. The eastern one possesses the remains of clay fortifications consisting of a square, walled structure and the base of a round tower. Some whitened flints were found. A few pieces of incised pottery were recognized by Arabs as similar to their own ware.

2. The Ruins of Warka

The ruins of Warka—Sumerian *Unug*, Babylonian *Uruk*, Hebrew *Erech*,⁴¹ and Greek *Orchoë*⁴²—are enormous in comparison with the small mounds which have just been described. When the atmosphere is in a favorable condition, i. e., when visibility is not lowered by sand haze, mist, or mirage, the prominent elevations of Warka may be seen by one stationed at the Euphrates. The great antiquity of the site, coupled with the fact that thousands of cuneiform documents have already come from its débris, is a stimulus to one who is about to examine its remains. Former visitors at Warka have felt the same lure. Nothing can equal the glamour of approaching the spot where a magnificent Babylonian political, commercial, and religious center flourished through long ages of the past. Warka is utterly devoid of splendor today, but imagination easily revives its past glories. Several days spent upon the mounds and in the environs of the former city, with a perfect sky overhead, produced impressions of stupendous size and gave some conception of the great variety of its débris, only a few sections of which have been investigated by partial excavations. A more detailed description follows.

⁴¹ Genesis 10: 10 (LXX: "Ὀρεχ").

⁴² Ὀρχόη. Cf. Carolus Müllerus, *Claudii Ptolemaei Geographia*, V, 10, p. 1022. Note Ὀρχηνοι in Strabo XVI, 1, 6, and *Orcheni* in Pliny VI, 123. Cf. Loftus, *op. cit.* p. 161.

Scene of Desolation. For many centuries Warka has been an uninhabited site. It has long been shunned by human beings and has consequently been affected extensively by the natural forces of the desert. Huge piles of débris of great antiquity have been covered gradually with drifting sand. Three-quarters of a century ago Loftus pictured the deserted condition of Warka in the following manner: "The desolation and solitude of Warka are even more striking than the scene which is presented at Babylon itself. There is no life for miles around. No river glides in grandeur at the base of its mounds; no green date groves flourish near its ruins."⁴³ This is an accurate description of the present state of the ruins of Warka (Figs. 1 and 2).

Extent of Ruins. The area covered by the débris of Warka has excited the wonder and admiration of all who have investigated its ruins. Loftus wrote, "Each step that we took, after crossing the walls, convinced me that Warka was a much more important place than had hitherto been supposed, and that its vast mounds, abounding in objects of the highest interest, deserve a thorough exploration."⁴⁴ It has been computed that the area of Warka contains 450 hectares, as compared with 750 hectares for Nineveh, and 1000 hectares for Babylon.⁴⁵

Nature of Surrounding Plain. Warka is situated in the midst of a broad alluvial plain with few elevations and depressions. As far as the eye can see there is little break in the monotony of the desert. Tell Senkera $12^{\circ} 15'$ south of east and Tell Ede $23^{\circ} 15'$ to the northeast, each about 15 miles distant, are the only remote mounds visible from Warka. The barren condition of the land is apparent in all directions. This is all the more striking because of the actual fertility of the soil. Proper irrigation would restore the whole region to its original garden-like prosperity.

Remains of City Wall. That ancient Erech was surrounded by a strong protecting wall of unburnt bricks is indicated by what remains of it at the present time. The ruins of the wall are very perceptible on the east (Fig. 3) and south sides of the site, and traces of it exist on the west and north sides. Loftus charted the wall very accurately.⁴⁶ In certain sections of the city area there is considerable unoccupied space between the mounds and the wall. At the highest point the wall is about 45 feet above the general level of the

⁴³ Loftus, *op. cit.*, p. 163.

⁴⁴ Loftus, *op. cit.*, p. 124.

⁴⁵ This is the reckoning of Delitzsch in *MDOG* 47, p. 47. A hectare equals $2\frac{1}{2}$ acres.

⁴⁶ Loftus, *op. cit.*, opposite p. 160; *MDOG* 47, p. 47; King, *A History of Sumer and Akkad*, p. 33.

ground with a thickness of about 20 feet. The original height may have been much greater. The perimeter of the wall is between five and six miles.⁴⁷

Populated Area. Not all the people whose life centered in Erech dwelt within its walls. Published documents from Erech indicate that there were many towns in its immediate environs.⁴⁸ Eanna, its temple, had extensive agricultural and pastoral interests. There can be no doubt that the whole encircling plain was a panorama made attractive by stately date trees, fields of grain, and clusters of Babylonian houses. Worked flints and pottery fragments, found on the mounds and on the plain for miles beyond, prove a concentration of population in ancient times both within and without the walls.

Types of Stone Artifacts. In the débris of the mounds of Warka and in their vicinity flint and obsidian artifacts abound to an astonishing degree. In form they vary from the long unserrated, knife-like flake to the finely-finished saw-blade, with examples of the intermediate sickle-blade. A perfectly-fashioned arrow-head (Fig. 31a) was found. Flint cores with evidences of much flaking were collected. The profusion of flint saw-blades is especially noteworthy. At no other site in the surveyed area were they found in such great numbers. Fig. 7 shows examples of Warka artifacts.

Great Variety of Pottery. The numerous fragments of ancient earthenware found at Warka include specimens which are far from drab and uninteresting. They presage the possibility of an ultimate science of Sumerian and Babylonian pottery. Typical examples of early painted ware (Fig. 8), similar to that found at Tell el-Obeid,⁴⁹ a wide range in texture and workmanship, and many different kinds of incised decoration indicate that the potter plied his art at Erech with effective skill and appreciative attention to design.

Ruins of Ziggurat. The lofty structure of Eanna, the famous temple of ancient Erech, has not yielded completely to the influences of weathering. Although composed entirely of unburnt bricks it still rears its summit to a height of about 100 feet above the level of the desert and 30 or 40 feet above the débris in its immediate vicinity. It is called Tell Buwériya by the Arabs, due to the fact that there are layers of reed matting in the brick-work four or five feet apart.⁵⁰ Loftus gained the impression that the ziggurat was a tower 200 feet square strengthened by massive buttresses.⁵¹ When one stands

⁴⁷ Loftus, *op. cit.*, p. 166.

⁴⁸ REN p. 39 f.; AENN p. 55 f.

⁴⁹ Woolley, *The Antiquaries Journal*, 4, 4, p. 344, pl. XLVII, a.

⁵⁰ Loftus, *op. cit.*, p. 168. See Herodotus 1, 179. ⁵¹ Loftus, *op. cit.*, pp. 167-170.

on its flat top a magnificent view of the surrounding country is obtained. Pictures of the ziggurat at Erech, showing exposed layers of reed matting, are shown in Figs. 9-13.

Neighboring Mounds. Four conical mounds of unusual character a short distance outside the wall of the city deserve mention. Three of them (Fig. 4) are located to the north. Bell-shaped Tell Nufaiji (Fig. 5), the largest of the three and the central one in Fig. 4, is two miles almost due north of the ziggurat. It is about 90 feet high and nearly 1000 feet in circumference at the base. A little south of it are two much smaller mounds of the same type. About a mile northeast of the ziggurat is Tell Ibrāhīm (Fig. 6), which is half the size of Tell Nufaiji. The writer was unable to discover any evidences of bricks in the débris of these four mounds. They appear like huge elevations of earth. Loftus excavated two similar conical mounds within the wall of Warka. He discovered that they were constructed of unbaked bricks, but could throw no definite light upon their original purpose.⁵²

Few Traces of Ancient Streams. Almost all streams, canals, and ditches in the plain around Warka have been filled with silt. The sand which is blown along the surface of the ground during the hot, dry months contributes to the obliterating process. Warka is near enough to the Euphrates for floods of unusual extent to reach its environs, and such inundations have a leveling influence. One reads in cuneiform documents of numerous rivers and irrigating channels in the land around Warka. These have practically disappeared. It is barely possible to trace the outlines of the large stream, called Shatṭ en-Nil,⁵³ which watered the city from the north.

Vestiges of Brick-kilns. Noticeable in various places, mainly outside the walls, are low collections of débris with over-burned and partly-fused bricks scattered about on the surface. Loftus mentions these fragments as scoria and ascribes them to the great heat of some conflagration.⁵⁴ The writer would suggest that these comparatively insignificant mounds represent the remains of brick-kilns. Texts from Erech contain references to the burning of bricks,

⁵² Loftus, *op. cit.*, pp. 234 ff. On page 235, *ibid.*, Loftus expresses the opinion that Tell Nufaiji may have been erected as a watch-tower or tomb. Since it is known that ancient Erech was an important center for the study of astronomy (Strabo XVI, 1, 6), it is not impossible that Tell Nufaiji and similar mounds may have been Babylonian astronomical observatories.

⁵³ Loftus, *op. cit.*, p. 237 f. The observations of Loftus indicate that the channel near Nufaiji was 120 feet wide, with banks about 5 feet high.

⁵⁴ Loftus, *op. cit.*, p. 164.

and it is natural that one should find evidences of this industry near the ruins of the city.

Paucity of Inscribed Bricks. An unexpected feature of the mounds of Warka is the lack of many inscribed bricks. The tumbling ziggurat of Abū Shahrein, ancient Eridu, exposes great quantities of baked bricks stamped with royal inscriptions. This is not the case at Warka. Furthermore, no cuneiform tablets were found. Although many evidences of the antiquity of the site were observed, examination of the exposed portion of its débris yielded little that would have identified the ruins, had their history not been known. This is mentioned to show the limitations of purely surface archaeological investigation.

Archaeological Importance of Warka. The absence of valuable antiquities above ground at Warka does not detract from the archaeological importance of the site. It must be remembered that local Arabs are continually searching its débris. Whatever appears as having potential worth is picked up by them. They have also dug into the ruins and recovered thousands of exceedingly valuable tablets. The excavations of Loftus and the Germans lasted for very short periods. Hence the real treasures of Warka remain to be discovered. Since the city existed as a great metropolis of southern Babylonia from early Sumerian to Greek times, the archaeological wealth of its mounds can be imagined. Assyriology would profit richly from its scientific investigation.

Difficulties of Excavation at Warka. The task of securing the remains of a past civilization which lie buried beneath the débris of Warka would not be a short and easy one. In the first place, the ruins, unlike those of Nineveh and Babylon, are not located by the side of a large river. Warka is situated ten miles from Khidhr and Darrāji, the nearest towns on the Euphrates having railway connections. The part of the Euphrates which is closest to Warka is only five miles away, but it would not be feasible to cover the distance in a direct line. This produces a problem of transportation and communication. The Euphrates would have to be depended upon for drinking water, since water obtained by digging in the alluvial plain is inclined to be brackish.⁵⁵ In addition, sufficient labor could not be obtained in the partially-deserted villages which are near at hand, but would have to be drawn from more distant towns. When all these difficulties are coupled with the fact that a long period of years would have to be devoted to the complete excavation of the site, it is evident that the enterprise would tax the resources of those who

⁵⁵ The German excavators at Warka in 1912 found the water situation not so bad as they expected. See *MDOG* 51, p. 50. However, there was a much greater degree of desiccation in 1926. See note 8a for new means of reaching Warka.

undertook it. However, given the necessary funds and proper direction, all obstacles could be overcome, and there would be ample compensation, because the thorough exploration of the remains of ancient Erech would rank as one of the great archaeological achievements of the world.

3. Tell Senkera

Tell Senkera, which lies about 15 miles southeast of Warka, is all that remains of the ancient city of Larsa, Biblical Ellasar,⁵⁶ which was closely connected in history with Erech. On the journey from Warka to Tell Senkera several interesting observations were made. A few miles east of Tell Ibrâhim (Fig. 6) a low, sprawling collection of débris was seen on the desert to the southeast. Examination showed that it was covered with numerous fragments of pottery and broken bricks, none of which revealed inscriptions. Whether the site represents a former town or an ancient group of brick- and pottery-kilns could not be determined. On the way to Tell Senkera there were more evidences of previous irrigation than had appeared in the vicinity of Warka. Of particular interest were the outlines of the banks of a large channel choked with silt and sand. Vestiges of a network of smaller canals were noticed in the same region. Before reaching Tell Senkera extensive sand dunes were encountered. In some of the level spaces between these sand dunes there were innumerable white shells of snail-like mollusks, a striking evidence of the fact that the place was plentifully watered at one time. The approach to Tell Senkera does not arouse the same emotions which are derived from arrival at Warka. Larsa was an important city in its time,⁵⁷ but that it never equalled Erech in size and splendor is indicated by the present condition of its ruins. There is no difference in environment, it is true, but Tell Senkera cannot be ranked in the same category with Warka so far as imposing grandeur and variety of contour are concerned. A brief description will reveal this.

Area of Ancient City. If one walks around the outer limits of the débris at Tell Senkera a distance of four and a half miles will be covered.⁵⁸ The real mounds of the site do not extend over this area. One may compute that they have a circumference of three miles.

Nature of Elevations. There are no great concentrated mounds as at Warka. A large part of the somewhat raised central area (shown in the foreground of Fig. 14), although not entirely level, is lacking in elevations. The ruins reach the greatest height in the northwest, northeast and southeast.

⁵⁶ Genesis 14: 1, 9.

⁵⁷ *RUL*; *Grice Chr.*

⁵⁸ Loftus, *op. cit.*, pp. 244 ff.

The southeast ridge, with unburnt bricks exposed at the top (to the right of the center of Fig. 14), rises about 35 feet above the level of the central area and about 70 feet above the surface of the plain.

Pottery and Flints. The ceramic remains are comparatively scarce and in the main without striking characteristics. Only a few flint artifacts similar to those at Warka were found.

Past Attempted Diggings. The only European who made trial excavations in the débris of Tell Senkera was Loftus in 1854.⁵⁸ Among the things which he found were three cylinders of Nebuchadrezzar. In more recent times Arabs have furnished antiquity dealers with valuable tablets from Tell Senkera, and many of these have found their way into museums. During the writer's short stay at these ruins small excavations that could not have been more than a few days old were observed. In some places in Baghdâd finely-preserved tablets from Tell Senkera were on sale.

Possibility of Real Excavations. Although the collection of mounds representing ancient Larsa is not among the largest in southern Babylonia, there can be no doubt as to the importance of its archaeological treasures. However, it is not located favorably for excavations. Tell Senkera is about as far from the Euphrates as Warka, but it seems more isolated in an extensive plain entirely devoid of settled towns. The difficulties which have been described as existing at Warka are present at Tell Senkera to an accentuated degree. An expedition to this site would have to be very carefully and prudently organized. It is also probable that an unusual amount of protection from roving Arabs would be necessary.^{58a}

Mounds near Tell Senkera. On account of a lack of water in the immediate vicinity of Tell Senkera it was not possible for the writer to visit its neighboring mounds, *viz.*, Tell es-Sifr, Es-Sarifa, and Shahiniya. Loftus was successful in finding some Babylonian tablets at Tell es-Sifr.⁵⁹

B. The Shatt el-Kâr Region

The Shatt el-Kâr presents one of the most interesting problems of southern 'Irâq. An unsightly dry channel of varying width and depth appears where a former river flowed. In its prime the Shatt el-Kâr must have glided through a land made prosperous by its waters. Towns must have dotted its course, beautiful palm groves must have shaded its current, and ramifying

^{58a} See note 8a for information indicating that Tell Senkera is much more accessible now.

⁵⁹ Loftus, *op. cit.*, pp. 263 ff.

canals must have extended its irrigating power over a wide area. In all probability it was the scene of a great deal of traffic by boat. Today its banks are deserted and what remains is nothing but an empty, winding gash in the waterless plain. An occasional caravan and a few camping nomads serve only to emphasize its desolation. The part of the survey which led through its territory was the loneliest of all.

1. Origin of the Term Shatt el-Kâr

Unfortunately the original meaning of the word Kâr cannot be determined with certainty. The main difficulty arises from the fact that Arab writers, particularly Arab geographers,⁶⁰ do not mention the Shatt el-Kâr. Hence it is impossible to be sure that one is obtaining the etymology of the word Kâr from its proper Arabic root.

Forms of the Term. The form of the term Shatt el-Kâr in modern written Arabic is, شط الكلار. ⁶¹ It should be stated that it is hard to distinguish in the colloquial Arabic of 'Irâq between *ك* and *ق*. For this reason, although their testimony should be considered, it is perhaps not possible to draw conclusions as to the initial consonant of the word Kâr from the following recorded English and German spellings of the word: Fraser (1835), *Kâr*;⁶² Loftus (1850-54), *Kâhr*;⁶³ Ward (1885), *Kehr*;⁶⁴ Peters (1890), *Kahr*;⁶⁵ Sachau (1898), *Kâr*;⁶⁶ Delitzsch (1902), *Kêr*;⁶⁷ Andrae (1902), *Kâr*;⁶⁸ English War Office (1918), *Khar*;⁶⁹ Meissner (1920), *Kâr* (= *Qâr*);⁷⁰ Baghdâd Surveys Map (1921), *Khar*.⁷¹

Possible Etymologies. Since both Arabic and non-Arabic forms of the word Kâr in the term Shatt el-Kâr lean towards initial *ك* rather than *س*, it is natural to seek first for an etymology from a root *ككك*. There is a word

⁶⁰ Cf. Streck, *Die Alte Landschaft Babylonien nach den Arabischen Geographen* (1900).

⁶¹ The writer's permit from the Antiquities Department in Baghda'd and a letter sent him from the Government Offices in Nâsirîya furnish instances of this spelling.

⁶² Fraser, *op. cit.*, 2, pp. 83, 143. Cf. *Journ. of Egyp. Arch.*, 8, p. 242, for spelling *Kar*.

⁶³ Loftus, *op. cit.*, p. 243.

⁶⁴ Peters, *op. cit.*, 1, p. 329.

⁶⁵ *Ibid.*, 2, p. 273.

⁶⁶ Sachau, *op. cit.*, p. 66.

⁶⁷ Delitzsch, *Im Lande des Einstigen Paradieses*, map on p. 5.

⁶⁸ *MDOG* 16, p. 18.

⁶⁹ Compiled at the Royal Geographical Society under the direction of the Geographical Section, General Staff. No. 2555.

⁷⁰ Meissner, *Babylonien und Assyrien*, 1, map at end of book.

⁷¹ Heliozincographed by Survey Party M. E. F. Baghda'd. Reg. Nos. 833, 834.

signifying "ship laden with corn," which has the additional meanings "craft," "profession."⁷² The same root has the meaning "dig" like شَحَّتْ.⁷³ Admitting the possibility of initial *š* in the root for Kâr, one naturally calls to mind شَحَّ, which means "tar," "pitch." However, no known circumstances in connection with the Shatt el-Kâr contribute to the plausibility of this derivation. No bitumen springs have been found in its vicinity, and the present condition of its banks does not indicate brick and bitumen construction. That the Shatt el-Kâr, like other streams, may have been used for conveying bitumen in boats must be conceded, but this cannot be regarded as a sufficient reason for connecting the word Kâr with شَحَّ. There is also the possibility that the term Shatt el-Kâr is related in some way to دُوْفَارْ which Yâqût mentions as near Kûfa, between Kûfa and Wâsiṭ.⁷⁴ Certainty must be ruled out in this case also. At best all the Arabic derivations which have been suggested must be regarded as suppositions. One may think it possible that the term Kâr antedates the Islamic period, for it may be assumed that the Shatt el-Kâr originated as a prominent channel of the Euphrates in Babylonian times. The Babylonian term *kâru* means "wall," "brickwork of a canal," "dike," "quay."⁷⁵ This word goes back to the cuneiform ideogram *KAR*, which seems to be compounded of two signs meaning "brick" and "water."⁷⁶ However, so far as available documents indicate, there is no occurrence of Sumerian *id-kar* or Babylonian *nâr Kâru*. In Neo-Babylonian texts from Erech *nâr Har-ri* is found a number of times.⁷⁷ Even were the *r* not doubled one would hesitate to connect this word with the doubtful form *Khar* used by some for Kâr. Babylonian etymologies seem likewise futile, and so the term Shatt el-Kâr remains an attractive enigma.⁷⁸

⁷² Hava, *Arabic-English Dictionary*, p. 661.

⁷³ Wahrmund, *Handwörterbuch der neu-arabischen und deutschen Sprache*, 1, 2, p. 603. See *AJSL* 23, pp. 241-252.

⁷⁴ Yâqût-Wüstenfeld, 4, p. 10 f. Cf. Albright, *JAOS* 46, 3, p. 227. Cf. Adler, *Abul-fedae Annales Muslemici*, 1, pp. 89 and 293, for references to a place Dhû-Qâr, Dhî-Qâr, transliterated into Latin *Du-Car*, *Di-Car*.

⁷⁵ *CD* p. 428. See *ZA* 35, 1, 233 ff.; 36, 1, 19 ff.

⁷⁶ *OEW* No. 332.

⁷⁷ *REN* p. 40; *AENN* p. 56. Cf. *harru*, "canal," *CD* p. 335. Note *harū*, "dig," *CD* p. 334.

⁷⁸ A further possibility should not be overlooked. Stretching southwest from the Nejef and Kûfa region far into the Arabian desert is Wadi el-Khar. See map compiled at the Royal Geographical Society under the direction of the Geographical Section, General Staff, July 1918, with additions of 1924. About 55 miles southwest of Kûfa is Tell Kara within 7 miles of Wadi el-Khar. No facts are at hand to prove whether Wadi el-Khar gave its name to the stream which once flowed through southern 'Irâq or whether the opposite took place, if indeed there is any connection at all.

2. Stages in the Desiccation of the Shatt el-Kâr

There are no available records concerning the Shatt el-Kâr prior to the nineteenth century, but the descriptions of it which are at our disposal show three stages in its comparatively recent desiccation, *viz.*, its existence as a swollen seasonal river from 1835 to 1854, its survival as a much diminished stream from 1885 to 1889, and its complete disappearance as a dependable water-supply by 1902. These three stages will be described more fully.

First Stage. Fraser in January, 1835, had difficulty in crossing the Shatt el-Kâr at no great distance northeast of Tell Senkera.⁷⁹ He describes the Shatt el-Kâr at this point as a watercourse 30 or 40 yards wide and very deep. The surface of the stream rose to the armpits of Arabs who waded across and the tallest horses could not keep their backs dry. Loftus in 1854 found the marshes of the Shatt el-Kâr approaching close to Tell Senkera.⁸⁰ The water of the main channel reached the chins of wading Arabs. Some of them who pushed a *kelek* across the stream were immersed to their shoulders. It must be remembered that these descriptions of the Shatt el-Kâr represent its condition not in the upper but in the lower part of its course. Farther north it may have been larger, as is often the case with rivers flowing through dry regions which furnish no tributaries.

Second Stage. In January, 1885, Ward found the Shatt el-Kâr near Tell Hammâm a swift stream 20 feet wide and 1½ feet deep.⁸¹ The local Arabs reported to him that the inability of the inhabitants to pay exorbitant taxes 6 or 8 years before had caused a government official to divert the water of the Euphrates from the Shatt el-Daghâra and that this had lowered the level of the Shatt el-Kâr to such an extent that famine and plague had resulted. Consequently the country had been abandoned. Peters in May, 1889, reached the Shatt el-Kâr north of Tell Hammâm and perceived it to be an enormous, deep canal, as large as a river, but dry or almost so.⁸² He noted many ruined Arab villages as proof that there had been more water in the channel not many years before. These descriptions of the Shatt el-Kâr deal with the upper part of its course and suggest that the lower part must have been even more desiccated in the years mentioned.

between the two. Although the mention of Dhû-Qâr in connection with Kûfa is significant (see references in note 74) and suggests interesting possibilities, no final conclusion can be reached at present with reference to the relation between Dhû-Qâr and the name of the old river in 'Irâq or that of the *wadi* in Arabia.

⁷⁹ Fraser, *op. cit.*, pp. 2, 83 ff.

⁸⁰ Loftus, *op. cit.*, pp. 244, 263, 265.

⁸¹ Peters, *op. cit.*, 1, p. 329.

⁸² Peters, *op. cit.*, 2, p. 273.

Third Stage. In January, 1898, Sachau crossed the Shat^t el-Kâr on his way from Tell Senkera to Sha^tra.⁸³ He describes the channel as 100 feet wide and entirely dry, but states that there was water at other places in the river-bed. In December, 1902, Andrae explored a large portion of the Shat^t el-Kâr.⁸⁴ His report indicates that there was no water in its contiguous territory south of Fâra. Practically the whole channel of the Shat^t el-Kâr was reported as dry throughout the year (*jahraus Jahrein*). This indicates that it had ceased to be a flowing stream.

3. Present State of the Shat^t el-Kâr

The Shat^t el-Kâr has changed little in the last quarter of a century. The writer investigated its condition, January 6-9, 1926, at various places in the vicinity of Tell Senkera, Tell Ede, Tell Hammâm, and to the northwest of Tell Hammâm. The following facts should be recorded.

General Course of the Shat^t el-Kâr. The channel which is now called Shat^t el-Kâr does not have actual contact with the Euphrates. That it did in former times is entirely possible. At present the Shat^t el-Daghâra branches off from the Euphrates north of Diwâniyâ and flows through 'Afaj, to the east of which it divides into a number of streams. Two of these, one turning south between 'Bra and Bismâya and the other, the Nahr Sahîn, flowing as an extension of the Shat^t el-Farahna around Fâra to the south and east, unite to form the Shat^t el-Kâr about 9 miles southeast of Fâra.⁸⁵ From thence the Shat^t el-Kâr flows eastwardly and turns southward somewhat west of Jôkha, to end in a depression a little southeast of Tell Senkera, where it once formed a large, marshy lake. Loftus found evidence that the Shat^t el-Kâr and the Shat^t el-Hai united in his day to form a marsh from which a single stream flowed into the nearby channel of the Euphrates.⁸⁶

Devious Channel of the Shat^t el-Kâr. The channel of the Shat^t el-Kâr is more tortuous than available maps indicate. There is considerable deviation from the direct course which would characterize a canal made by man. On the other hand, the tendency of a river in alluvial terrain to depart from a straight line must be taken into account. Even an artificial stream would probably do this if left to its own tendencies for a long time. However, in the absence of final proof one way or the other it is perhaps best to regard the Shat^t el-Kâr as a former normal outlet for the waters of the Euphrates through southern Babylonia.

⁸³ Sachau, *op. cit.*, p. 70.

⁸⁴ MDOG 16, p. 22.

⁸⁵ *Ibid.*, 16, map opposite p. 30.

⁸⁶ Loftus, *op. cit.*, p. 126 f.

Width and Depth of the Shatt el-Kâr. There is great variety in the width and depth of the Shatt el-Kâr. The largest measurements were taken about 42° southeast of Tell Hammâm, where there is a *wadi* over 200 feet wide and about 20 feet deep. Northeast of Tell Hammâm the Shatt el-Kâr is not constant in size. At some places it is about as large as at the above mentioned spot; at other places it is much smaller. In the southern part of its course, near Falehîya $10^{\circ} 30'$ northeast of Tell Senkera, it is about 100 feet wide and 8 feet deep. This diversity in the size of the present channel of the Shatt el-Kâr indicates that the river which once flowed in its course varied in width and depth to the same degree. In this respect the Shatt el-Kâr, when full of water, was not unlike streams which are active in southern Babylonia today, e. g., the Shatt el-Hilla and the Shatt el-Hai.

Amount of Water in the Shatt el-Kâr. At no place was flowing water found in the Shatt el-Kâr. Somewhat east of its origin, i. e., a little over 10 miles northwest of Tell Hammâm, stretches of partially-dried mud and a few pools were found. Still farther east no water was observed in the channel, although a carpet of thin verdure indicated the presence of some moisture in the soil. At the writer's halting-place, 42° southeast of Tell Hammâm, the bed of the broad and deep channel was entirely dry with no evidence of vegetation. A well sunk about 25 feet below the bottom of the channel furnished excellent drinking water. In the vicinity of Falehîya not far from Tell Senkera, the bed of the former river contained a shallow pool (Fig. 15). It was not possible to examine every part of the Shatt el-Kâr with minuteness, and so no complete report as to moist spots, pools, and wells is possible. However, the observations were extensive enough to warrant the conclusion that the Shatt el-Kâr has lost its function as a stream capable of supporting a settled population.

Elevated Banks of the Shatt el-Kâr. The banks of the Shatt el-Kâr do not consist of ridges raised high above the surrounding plain. In fact there is little to indicate the location of the channel until one is almost at its edge. This is especially true of the part north of Tell Ede. Whatever elevations exist are more prominent south of Tell Ede, but they seldom reach more than 2 feet above the general level of the plain. It may be that there was more settling of silt in the lower part of the Shatt el-Kâr, causing an elevation of the bed of the channel and a consequent need for the building of higher banks in order to prevent the flooding of cultivated fields. Andrae suggests that these dune-like banks were caused by sand blown from the desert and deposited due to the obstruction of growths along the sides of the stream.⁵⁷ Such

⁵⁷ MDOG 16, p. 22.

a process would be natural, but one would expect it to operate with equal effect in the northern as well as the southern sections of the river course.

Ruins along the Shatt el-Kâr. No remains of undoubtedly Babylonian character were noted in the immediate proximity of the Shatt el-Kâr. All the ruins on its banks represent fairly recent Arab occupation. The best-preserved ruins are those of Falehiya, which is located on the Shatt el-Kâr about $7\frac{1}{2}$ miles a little northeast of Tell Senkera. According to Andrae, Falehiya, consisting of a fortress and houses, was built in 1902 by Faleh Pasha.⁸⁸ The size of the fortress (Fig. 17) and its excellent construction of burnt bricks indicate the strength of the settlement. In spite of the dry condition of the Shatt el-Kâr at the time, as reported by Andrae, there must have been enough water in the vicinity of Falehiya to warrant the establishment of a town. The deep subsoil of the channel may still have contained sufficient moisture for considerable seepage into wells. Evidently this was not the case in 1926, for the writer found Falehiya degenerating into ruins and almost deserted. Completely-destroyed and entirely-uninhabited ruins, representing Arab villages occupied 4 or 5 decades ago, were seen at different places along the Shatt el-Kâr.

Relation of the Shatt el-Kâr to the Shatt en-Nil. Shatt en-Nil is the modern name of an ancient stream which flowed from the Euphrates through southern Babylonia. It is known that Nippur was upon its banks, and Peters reports information from Arabs that it approached Jôkha and formerly reached Warka.⁸⁹ According to statements obtained by Loftus from Arabs at Warka the stream which watered that city from the north was called Shatt en-Nil and branched off from the Nahr Sahîn,⁹⁰ which is near Fâra and which has been pointed out as one of the streams contributing to the formation of the Shatt el-Kâr. Ancient records indicate that the Euphrates flowed by Shuruppak, the ruins of which are at Fâra. Arabs at Warka informed the writer that the stream at that site called Shatt en-Nil used to bring water from the Shatt el-Kâr. About 8 miles northeast of Rumaitha there is a stretch of sand-filled river-bed which is called Shatt en-Nil at the present time. Its appearance is similar to the existing condition of the old channel which approaches Warka, but the exact relation of the two has not been determined. Enough has been stated to show that there seems to be some possibility that the river-beds represented by the Shatt el-Kâr and the Shatt en-Nil were

⁸⁸ *Ibid.*, 16, p. 17.

⁸⁹ Peters, *op. cit.*, 1, pp. 273, 274, 329; 2, pp. 97, 106, 131, 145, 192. Fisher, *op. cit.*, p. 6 f.; Zehnpfund, *op. cit.*, p. 30.

⁹⁰ Loftus, *op. cit.*, p. 238.

connected with one another at one time, but sufficient facts are not at hand to explain the nature of this connection.⁹¹

4. The Character of Tell Ede

Tell Ede is located 3 or 4 miles west of the Shatît el-Kâr, 16 miles northwest of Tell Senkera, and 8 miles south of Tell Hammâm. Some diversity in interpreting the Arabic form of the name seems to exist. Fraser favored *Ul-Eed* or *Til-Eed*;⁹² Loftus hesitated between *Tel Ede* and *Tel Yede*;⁹³ Andrae suggested *Tell Id*, *Tell Jîd*, or *Tellid*.⁹⁴ The peculiarities of the mound will be presented briefly.

Size and Shape. If one includes the outer débris of Tell Ede, the circumference of the area which it covers is about half a mile. However, the most distinctive feature of Tell Ede is its irregular elevation (Fig. 18) which projects the farthest from the plain on the northwest side. This caused Fraser to describe it as "a sharp, insulated, lofty ruin."⁹⁵ Loftus estimates its height at 90 feet.⁹⁶ Peters states that it is over 70 feet high,⁹⁶ while Andrae reports that it might be between 70 and 80 feet high.⁹⁷ The writer's independent calculation came to between 70 and 80 feet. It is possible that it was 90 feet high when Loftus saw it, but considerable weathering may have taken place in the last three quarters of a century. The steep sides of the main conical mound are deeply furrowed. On account of its impressive appearance, as one approaches, evidences of great antiquity are expected at Tell Ede.

Construction. There is nothing in the formation of the lofty prominences which satisfies this expectation. Tell Ede consists of an immense pile of densely-compressed earth, mainly sand, with not a single sign of brick-work. Loftus describes the solid heap as a "compact sandy mass,"⁹⁵ while Peters refers to it as "sand packed together with rock-like consistency."⁹⁷ No lines remain of the original form of the structure, if such it may be called.

Date. The lower stretches of débris around Tell Ede are covered with many fragments of pottery, which possess no outstanding characteristics. Only three pieces of incised ware were found, with no typical ornamentation capable of dating the sherds. The fact that no evidences of faience and

⁹¹ Pliny VI, 130, states, "sed longo tempore Euphraten praecclusere Orcheni et accolae agros rigantes, nec nisi per Tigrim defertur in mare."

⁹² Fraser, *op. cit.*, 2, p. 141.

⁹⁵ Loftus, *op. cit.*, p. 119.

⁹³ Loftus, *op. cit.*, p. 117.

⁹⁶ Peters, *op. cit.*, 2, p. 278.

⁹⁴ MDOG 16, p. 18.

⁹⁷ MDOG 16, p. 19.

glassware were discovered inclines one to ascribe the remains to pre-Mohammedan times. Very noticeable is the absence of specimens of flint artifacts, and this would argue against an extremely early date for the origin of the ruins. The non-discovery of Sumerian and Babylonian antiquities on the site prevents final historical conclusions.

5. Remains at Tell Hammām

An interesting site of an entirely different type is Tell Hammām, located about 5 miles west of the Shatt el-Kār and approximately 7½ miles southwest of Jōkha. The archaeological problem presented by Tell Hammām diverges considerably from that of Tell Ede, but its solution is no less difficult.

General Nature of the Ruins. Most of the elevations at Tell Hammām are very low, consisting of "undulations" of débris. There seem to be several detached mounds, at least three, in an area which has a diameter of about a mile. Fraser in 1835 thought he saw clearly-marked vestiges of walls, running at right angles to one another, on the east and north sides of Tell Hammām.⁹⁸ The writer had no opportunity to verify this observation. It is conceivable, however, that almost a century of weathering may have diminished the traces of these walls.

Scattered Surface Remains. In contrast with the ceramic remains of Tell Ede, the low mounds of Tell Hammām reveal pottery fragments which point to Arab occupation. Faience is present and glassware may be found without difficulty. On the other hand, the general surface of Tell Hammām, like that of Tell Ede, furnishes no antiquities of Sumerian or Babylonian origin. Mention must be made of the fact that Loftus found three fragments of an ancient statue of "finely-grained black granite" at Tell Hammām.⁹⁹ One fragment was a torso, natural size, with hands clasped at the waist, a garment over the left shoulder, and a mutilated cuneiform inscription on the bare right shoulder. The second fragment was the lower part of the statue with similar defaced writing on the right hip and side. The remaining fragment was an irregular block with a polished side showing a fringe of garment. These fragments were parts of a statue of Gudea, the famous ruler of Lagash, modern Tello. Peters expressed the view that the statue may have come from Jōkha and that it cannot be regarded as proof of the extreme antiquity of the ruins at Tell Hammām.¹⁰⁰ In favor of this supposition is

⁹⁸ Fraser, *op. cit.*, 2, p. 141 f. The mound is not mentioned by name.

⁹⁹ Loftus, *op. cit.*, p. 115 f.

¹⁰⁰ Cf. references in notes 98 and 99; Peters, *op. cit.*, 1, p. 329 f; 2, p. 273 f; *MDOG* 16, p. 22 f.

the fact that Arabs hold the site worthless as a source of archaeological objects.

Remnants of a Brick Structure. The most striking ruin at Tell Hammâm remains to be considered. This is a massive, hollow pile of exceedingly thick walls about 40 feet high and about 80 or 90 feet square. These walls stand a little to the northeast of the largest of the low mounds. When Fraser saw this structure in 1835 it was already "split into four parts."⁹⁸ He could not decide whether the "bastion" had been built hollow or solid. Judging by the impressions gained by all who have visited it,¹⁰⁰ including the writer, there has been little change in the general shape of this fractured, four-sided tower in almost a century. That the original surfaces of the structure are no longer intact is indicated by Fig. 16. The large unbaked earth and straw bricks are $14\frac{1}{2}$ inches square and 5 inches thick. The brick-work is strengthened by reed matting placed between the layers of construction. Loftus, on account of fragments found in the surrounding débris, concluded that the ruin possessed a burnt brick facing at one time.¹⁰¹ No evidences of such a facing were found by the writer. It has been conjectured by some that these remains at Tell Hammâm represent a Babylonian ziggurat. Its formation of sun-dried bricks with strata of reed matting is favorable to this view. The lack of a burnt brick facing need not be regarded as a serious objection, since the ziggurat at Warka, also constructed of unbaked bricks and reed layers, possesses no protection of this type. In both cases the baked bricks may have been carried away during the period of intensive Arab occupation of southern Babylonia. However, the utter absence of undoubtedly Babylonian antiquities at Tell Hammâm makes it impossible to conclude definitely that this outstanding structure was formerly a temple-tower.

6. Conclusions concerning the Shatt el-Kâr Region

The present channel of the Shatt el-Kâr runs by the base of no prominent mound. The ruins along its course which it was possible to examine represent Arab occupation. Tell Ede and Tell Hammâm are not extremely far from its western bank, but both these sites are singularly lacking in Babylonian remains. Jôkha and Tell Medina (to be discussed later), two mounds of undoubtedly antiquity, are fairly close to its eastern bank, and Tell Senkera was within reach of the marsh formed until recently by the river in the south. The moderate proximity of all these mounds is significant, but it can be seen from all that has been presented that no definite evidence is at hand to prove

¹⁰¹ Loftus, *op. cit.*, p. 114.

how far back in history the Shatṭ el-Kâr began to wind its way through southern Babylonia. All that can be said is that it was, in all probability, the irrigating and transporting artery of a rich agricultural district for a long period of time. Proper steps in reclaiming the waters of the Euphrates may easily cause it to resume its former rôle. Otherwise the encroaching sands of the desert will obliterate it.

C. The Region of Fâra and Abû Ḥaṭab

Leaving the territory of the Shatṭ el-Kâr, we approach a region where two of the earliest centers of civilization in southern Babylonia flourished. At Fâra lie the ruins of ancient Shuruppak, named after the god Shuruppak, while Abû Ḥaṭab represents Kisurra of old. Shuruppak's fame is due to the fact that the best known of the cuneiform deluge narratives mentions it as the home of Ut-napishtim, the Babylonian counterpart of Noah.¹⁰² The Euphrates river flowed by Shuruppak when it thrived as a city, a point in early geography which should not be forgotten.¹⁰³ Plano-convex bricks and archaic tablets found at Fâra have helped to establish its antiquity as a site.¹⁰⁴ Apparently Kisurra, although contemporaneous with Shuruppak, did not exist prior to the period of the kings of Sumer and Akkad.¹⁰⁵ An inscribed brick of Itûr-Shamash, son of Idin-ilu, ruler of Kisurra, has been found at Abû Ḥaṭab.¹⁰⁶ It is remarkable that excavations have revealed no remains of large structures at either Fâra or Abû Ḥaṭab. Neither site possesses elevations of more than medium height. Both Shuruppak and Kisurra were completely destroyed about 4000 years ago and were never rebuilt. Babylonian history is silent concerning them.

Fâra is a rambling, irregular mound about five-sixths of a mile long and two-thirds of a mile wide, including all the débris. The area of the real elevations is smaller. On the other hand Abû Ḥaṭab is a compact, almost rectangular mound, about half as long and not quite half so wide as Fâra.¹⁰⁷ The value of the study of sites like Fâra and Abû Ḥaṭab can be understood from what has been presented concerning their history. Their débris, with very little exception, does not represent occupation later than the ancient Sumerian period. Weathering has uncovered quantities of sherds and flints on the refuse heaps which resulted from excavations, and it is possible to

¹⁰² Clay, *A Hebrew Deluge Story in Cuneiform*, p. 72, l. 11; p. 73, l. 23.

¹⁰³ Cf. reference in *CD* p. 1117.

¹⁰⁴ *MDOG* 17, pp. 4 ff. See Frankfort, *Studies in Early Pottery of the Near East*, I, p. 59 f.

¹⁰⁵ King, *op. cit.*, p. 29.

¹⁰⁶ *MDOG* 15, p. 13 and note.

¹⁰⁷ For maps of the ruins of Fâra and Abû Ḥaṭab see *MDOG* 17, opposite p. 44.

examine what remains in the long trenches which were dug, particularly at Fâra (Fig. 19). In the same region are more recent ruins, the investigation of which proved equally interesting.

Fâra Pottery. The ceramic fragments obtained at Fâra should be of assistance in reconstructing the pottery history of Mesopotamia. Although no examples of old painted ware were found, sherds with various incised decorations were collected. Some reveal unique types of ornamentation, which seem to represent the potter's art of an early age. Bands of a thin slip alternating with bands made by removing the slip may be suggested as a characteristic embellishment of earthenware in Mesopotamia during the latter part of the third millennium B. C. The absence of faience and glassware harmonizes with the view that Shuruppak never regained its place as a settled town after its destruction in the days of the kings of Sumer and Akkad.

Fâra Stone Artifacts. Truly remarkable specimens of the flint-artificer's skill were picked up at Fâra. Some flint artifacts could be procured by diligent search at almost any place within the circle of mounds, but in one particular area of limited extent they were present in great profusion, the flint and obsidian finished product mingling with flint cores and flint flakes. Possibly one should hesitate to draw a conclusion from such a discovery, but it may be imagined that a group of flint workers once plied their trade in this section of the ancient town, in the same way that metal workers occupy a particular section of a *sûq* in an 'Irâq town today. Although this inference is extremely conjectural, there need be no hesitancy in expressing a definite opinion on one point. The saw-blades of Fâra, fashioned from flints of different colors, some of them with variegated natural markings, some showing edges polished with much use, are not surpassed in workmanship by the finds at any other locality in the surveyed area, although Warka excels in the great quantity scattered among its débris. See Fig. 25 for types of Fâra stone artifacts.

Abû Haṭab Remains. Surface indications prove that Abû Haṭab (Fig. 20) was subordinate to Fâra as a cultural settlement. There is a marked inferiority in the sherds and flints found at the ruins of ancient Kisurra. Little distinctive pottery was observed. The only fragments of decorated ware obtained would seem by their style to point to sporadic Arab encampments on the elevated parts of the débris. Two flints of poor workmanship were discovered. These finds are in accordance with the conclusions of Andrae and Noeldeke who excavated at Abû Haṭab.¹⁰⁸ It is important from the standpoint of the comparative investigation of ancient sites to recognize the

¹⁰⁸ *MDOG* 17, p. 14 f.

fact that mounds located near one another may yield entirely different archaeological data. Fâra and Abû Haṭab are an example of this principle, as the latter is only about four miles slightly northwest of the former.

Small Mounds near Abû Haṭab. A further demonstration of the principle which has just been stated is afforded by three low mounds, small in extent, lying close together a few hundred yards in a northerly direction from Abû Haṭab. A casual examination of the one nearest Abû Haṭab yielded more than half a dozen flint artifacts, several being of the saw-blade type. One sherd with incised ornamentation, apparently of ancient style, was found. The middle and largest mound must have been occupied in the Islamic era, because a great deal of faience and glassware was scattered over its débris. As to the third mound, no flints and no Arabic ware were noted. Some nondescript sherds were observed. Hence the three mounds differ much as to age and character, and represent three distinct periods of occupation within an unusually small area. Andrae's wider examination of the mounds in the region of Fâra and Abû Haṭab reveals this phenomenon on a larger scale.¹⁰⁹

Arab Ruins of Recent Origin. Another type of ruins, the dilapidated buildings of recently-deserted Arab villages, came under observation. A characteristic example of such a site is Khanazrîya,¹¹⁰ situated 4 miles southeast of Maradiya. Its strong-walled fortress with massive tower, its closely-clustered, hut-like clay dwellings with roofs fallen in, and its general appearance of utter neglect produce the impression of a once prosperous settlement having reached the first stage of crumbling decadence. Not so many years ago it was inhabited by Arabs numerous enough to have a sheikh who prided himself upon the stronghold which he had erected for their defense. A branch of the Shatt el-Farahna brought plenty of water for use in the town and for irrigating purposes. The ruins of Khanazrîya (Fig. 21) have their counterpart at many localities in this section of the surveyed area, with varying degrees of descent toward homogeneous débris in evidence. This points to a time, not so long ago, when the country possessed flowing streams with a network of connected canals.

Dry Irrigation Channels. The picture is completed by the existence of waterless irrigation channels, not filled with sand blown from the desert, but entirely open, showing that they were performing their function within recent years. Of particular interest is the manner in which the Shatt el-Farahna

¹⁰⁹ *MDOG* 16, pp. 24-30. Note chart of the area investigated by Andrae opposite p. 30, *ibid.*

¹¹⁰ Baghdad maps have this spelling. Note Hanasirye in Andrae's chart, *MDOG* 16, opposite p. 30.

ends. At Maradiya it contains considerable water (Fig. 22) held back in part by a low barrage, beyond which there is some flow for a short distance. On January 11, 1926, a mere rivulet was in the Nahr Sahîn (Fig. 23) which is only about 10 feet wide and 5 feet deep where it branches off from the Shatîl el-Farahna, near Dajja. There are evidences that the Shatîl el-Farahna divides into two dry channels east and southeast of Dajja.¹¹¹ The dry channel which extends to the east of Dajja was traced. At one place it is 10 feet wide and 4 feet deep, with banks on both sides about 2 feet above the level of the plain, 20 or 30 feet from the main channel (Fig. 24). At the end of the channel, where the banks are higher and thicker, there is a division into eight distinct channels spreading out fan-wise, at a point which is almost due south from Abû Ha'âb and northwest from Fâra. In a tour of investigation between this spot and Fâra two dry canals running parallel to one another were discovered, each being 3 or 4 feet across and several feet deep. They seem to be extensions of the dry channel of the Shatîl el-Farahna which passes by Khanazrîya. It was ascertained that these canal-beds separate near Fâra, the eastern one stopping at the edge of the mound. These details are given to show the value of studying evidences of the past range of irrigation.

D. West of the Shatîl el-Farahna

Another center in the former complex culture of southern Babylonia was located about 16 miles northwest of Shuruppak, modern Fâra. This ancient sphere of influence is represented today by mounds which are called Ishân Bahriyât and El-Bahri Sharqi, whose general position is west of the Shatîl el-Farahna. Interest in this region has been aroused by Professor Langdon's view that Ishân Bahriyât covers the remains of the city of Isin.¹¹² A powerful dynasty held sway at Isin in the last quarter of the third millennium B. C.,¹¹³ and hence there can be no indifference as to the actual location of the site. For this reason a special effort was made to investigate the extensive, although low, elevations of Ishân Bahriyât and the small accumulation of débris at El-Bahri Sharqi. A comparative study of these two mounds yielded data which cannot be ignored in an endeavor to reconstruct the history of this region. A brief enumeration of the results obtained will be sufficient.

1. Ishân Bahriyât

General Features. Suwaid, about seven miles due east of Ishân Bahriyât, was used as a base for the exploration of the latter. The elevations of Ishân

¹¹¹ Andrae's chart (see previous note) has Deke.

¹¹² Langdon, *op. cit.*, pp. 109-111.

¹¹³ King, *op. cit.*, pp. 309-319.

Bahriyât are so low that one must approach within a few miles before their outline is clearly defined. The mounds of the supposed site of Isin are lower than those of Fâra and Tell Senkera, and there is no similarity between them and the imposing ruins of Warka. The circumference of the débris of Ishân Bahriyât is about a mile and a half, but the most prominent elevation, presumably the location of the temple or palace, is little more than 15 feet above the level of the plain.

Pottery and Flints. Pre-Arabic pottery fragments predominate at Ishân Bahriyât. The few exceptions observed can be explained on the basis of temporary Arab occupation. Very little incised ware was found. Two pieces exhibiting early painted decoration were obtained. In a careful search of two days several poorly-shaped saw-blades were secured. An arrow-head (Fig. 31b) should be mentioned as one of the finds at Ishân Bahriyât. Both pottery and flints suggest that the site represents the remains of an ancient city.

Bronze Objects. Two objects of bronze (Fig. 31c), each $1\frac{1}{2}$ inches long, were found on the surface of the débris. One is shaped like a very slender spear-point and the other is forked. They may have been parts of ancient implements, or ornaments affixed to larger objects. Another glimpse of the life that once centered in this site is furnished by these bronze antiquities. See Langdon, *Excavations at Kish*, 1, pl. XVIII, no. 3, for similar bronze objects.

Seal Cylinders. Two seal cylinders of archaic type and material may be accepted, one of them tentatively, as further testimony concerning the age of the remains at Ishân Bahriyât. One was found on the mound itself, but the other was bought at Suwaid from an Arab who affirmed that he had gotten it at Ishân Bahriyât. Both seal cylinders are of shell and are much worn, so that it is difficult to reproduce with exactness what was engraved upon them. However, the simple lines of the figures seem to represent early rather than late art.

Door Sockets. No doubt need be felt as to the antiquity of a site where door sockets of a certain type are found. Two, one of white stone, the other of black (Fig. 36), were discovered at Ishân Bahriyât, each about a foot in diameter. Unfortunately no inscriptions had been placed upon these door sockets, and hence their value for exact dating is minimized, but their shape and general appearance classify them as ancient.

Sizes of Bricks. Isolated bricks were found at various places. They were more numerous on the highest elevation where Professor Langdon dug a trench in 1924. The following sizes were noted: 1 ft. 7 in. square, $2\frac{1}{2}$ in. thick; 1 ft. 1 in. square, $4\frac{1}{2}$ in. thick; 1 ft. 1 in. square, 2 in. thick; 1 ft. by

6½ in. by 2½ in. One brick 1 ft. 1 in. square was pierced in the center by a hole about 2½ in. in diameter. There were some specimens of smaller bricks, but none of the plano-convex type was observed. The great variety of bricks found at Ishân Bahriyât indicates the complex life which existed at the site.

Inscriptions on Bricks. Ishân Bahriyât has furnished bricks with inscriptions of three kings of the Isin Dynasty. The first stamped brick to be obtained bore an inscription of Libit-Ishtar.¹¹⁴ Professor Langdon secured bricks stamped with inscriptions of Enlil-bâni and Ishme-Dagan.¹¹² In these inscriptions each of the three kings is styled "King of Isin, king of Sumer and Akkad."¹¹⁵ The writer found part of an Enlil-bâni brick (Fig. 39) and discovered part of a brick with the first section of an inscription of Bûr-Sin, king of Ur, indented by means of a stylus (Fig. 40).¹¹⁶ In addition, both Professor Langdon¹¹² and the writer found bricks stamped with a familiar inscription of Nebuchadrezzar II.

Identity of the Site. All the main methods of judging a site agree in ascribing great antiquity to the ruins of Ishân Bahriyât. While certain of its antiquities revert to an earlier date and others belong to a later date, the bulk of the evidence thus far in hand, i. e., three inscribed bricks of the Isin Dynasty and one of the Ur Dynasty, indicate the existence of a prominent city on this spot during the last quarter of the third millennium B. C. No other equally good site is available at present for the city of Isin. Hence there is a temptation to infer that Ishân Bahriyât represents that ancient center of imperial rule. This may be the correct conclusion, as there can be no doubt that Ishân Bahriyât consists of the débris of a city which was important in Sumerian times. There is also evidence that it lasted until the Neo-Babylonian period. However, a final, scientific decision concerning this question is not possible at present. Bricks containing inscriptions identical with those obtained at Ishân Bahriyât have been found at other mounds.¹¹⁷ It is for this reason that additional data must be awaited before the problem can be solved. Excavations at Ishân Bahriyât, which could be carried on with a base at the Shatt el-Farahna, ought to furnish highly interesting results.

¹¹⁴ *JRAS* 1922, p. 431; Clay, *A Hebrew Deluge Story in Cuneiform*, p. 86.

¹¹⁵ Lugal 1-si-inkl-na lugal ki-en-gi ki-uri. Cf. *SAKI* pp. 204-207; Langdon, *op. cit.*, p. 110 f.

¹¹⁶ The part of the inscription upon the brick is as follows: dBûr-dSin Nibruki-a dEn-lil-li mu-pad-[da] sag-[uš] ē-d[En-lil-ka], "Bûr-Sin, whose name Enlil has chosen in Nippur, who has [lifted up] the head of the temple [of Enlil]." Cf. *SAKI*, p. 196, b.

¹¹⁷ Cf. *SAKI* p. 204.

2. El-Bahri Sharqi.

General Features. El-Bahri Sharqi, which lies 2 miles southeast of Ishân Bahriyât, is a mound almost rectangular in shape about a third of a mile long, 500 feet wide and 12 to 15 feet high. Its slight elevation and small extent made it seem insignificant and caused one to feel that little of value could be expected from its remains. This anticipation was not sustained by the facts.

Bricks. Many bricks of different sizes were exposed on the surface of the mound. Attention was directed immediately to examples of plano-convex bricks, marked with finger-strokes, indicating connection with the pre-Sargonic epoch. Three stamped fragments of flat bricks were found, the inscriptions seeming to be of Bûr-Sin.¹¹⁸ El-Bahri Sharqi must therefore be included among southern Babylonian sites containing remains of Sumerian times. It could be investigated thoroughly in connection with excavations at Ishân Bahriyât.

Pottery and Flints. Very striking incised sherds, with unusual designs crudely drawn, were found. Mingled with this ware were pottery fragments with incised ornamentation of apparent Arab origin. A definite period of Arab occupation in Abbâsid times is indicated by many beautiful specimens of faience with characteristic designs, mainly in black upon a bluish-green background. No worked flints were found.

Nature of the site. El-Bahri Sharqi was contemporary with Ishân Bahriyât in ancient times, barring the dubious possibility that the ancient débris of the former was brought to it from the latter. There is enough difference in the character of their débris, however, to make this implausible. Furthermore, El-Bahri Sharqi lasted much longer as an occupied site than Ishân Bahriyât. The only reason which can be suggested for this is that El-Bahri Sharqi was more favorably situated for the maintenance of irrigation in its environs, although it must be admitted that no evidence of this was observed.

3. Tell 'Aqbi.

This is a medium-sized, clearly-defined mound on the west bank of the Shatt el-Farahna, not far from where it branches off from the Shatt el-Daghâra. There were few indications on the surface of Tell 'Aqbi which could serve as a clue in determining the character of the site. Only two pieces

¹¹⁸ The archaic character of the inscription proves its antiquity, but not enough of it remains on the fragment now in the possession of the writer to reveal its nature with definiteness.

of distinctive pottery with incised ornamentation were found. These negative results cannot be regarded as final, if the mound to be described next may be taken as a criterion.

E. The Shat̄t el-Daghāra Region.

The Shat̄t el-Daghāra winds its way through an area in which there are several mounds representing ancient cities. The town of 'Afaj, formerly surrounded by a marshy section known as the 'Afaj Swamps, has been the center from which explorers and excavators have worked in this region. No remains going back to antiquity have been found at the very edge of the Shat̄t el-Daghāra. The fame of the great city of Nippur overshadows that of all other ruins of this part of southern Babylonia, but an archaeological survey must take account of small as well as large accumulations of débris. The discussion which follows indicates that an insignificant mound like Ishān Hāfudh may yield highly interesting and very valuable material.

1. Ishān Hāfudh.

Accidental Discovery. Ishān Hāfudh is so small that it is almost imperceptible at a distance of a mile, especially if there is a little haze in the air. To one riding along it appears as an ordinary sand-drift rising slightly above the level of the plain. The expedition of the writer, after visiting Tell 'Aqbi, had reached Badr on the Shat̄t el-Daghāra. During the usual social gathering in the sheikh's reed house at Badr, an Arab brought in a brick stamped with an inscription of Ur-Ninurta, one of the kings of Isin. Inquiry revealed the fact that it had come from Ishān Hāfudh, less than a mile south of Badr. The stay in that region was prolonged until the next day so as to give more time for the examination of this hitherto unknown and uncharted ancient site.

General Description. Ishān Hāfudh proved to be a mound less than two-fifths of a mile in perimeter, the highest point rising only about 10 feet above the level of the plain. About an eighth of a mile north of Ishān Hāfudh is a smaller mound which the Arabs say is related to Ishān Hāfudh. These two mounds are bordered on the east by the dry channel of a canal extending to the south. An interesting rectangular mound lies across the channel and a little to the northeast. This mound measures about a sixth of a mile in length and about a tenth of a mile in width. Its surface débris failed to prove either ancient or Arab occupation. Whether it was connected formerly with the mound of Ishān Hāfudh could not be determined.

Surface Remains. The surface of Ishān Hāfudh furnished very little in the way of pottery fragments. Two very small pieces of rough incised ware

were found. Half a dozen flint artifacts, two with evidences of serration, were obtained. The end of a bronze needle with eye intact, some beads (Fig. 31e), and a small rectangular seal (Fig. 31e) were also secured.

Brick Structure. There is a diminutive spur on the eastern side of Ishân Hâfudh. A cavity made by Arabs revealed a hollow, tower-like structure, consisting of a circular brick wall with an inner diameter of 5 feet, 3½ inches, and an outer diameter of 7 feet, ½ inch, composed of bricks, shaped like parts of sectors, fitted together with precision, each brick measuring 1 ft. 4½ in. long, 9 in. wide at one end and 1 ft. 1½ in. wide at the other end. It was discovered that not every brick was stamped, but all the inscribed bricks examined bore the same inscription of Ur-Ninurta,¹¹⁰ which had been noted on the brick brought for inspection in the first place. There can be no doubt that this structure was built in the time of Ur-Ninurta who reigned about 2200 B. C. Fig. 26 represents a typical, partly-broken Ur-Ninurta brick from Ishân Hâfudh.

Seal Impressions. As a result of Arab diggings many specimens of clay *bullae* were found. Upon definite assurance in Badr that they came from Ishân Hâfudh they were bought. Pictures of the best of these tags, originally attached to sacks of produce, are presented in Fig. 27. The original purpose had been to discuss them fully in this report, but it has been found that a complete description of all their characteristics must be reserved for another article. Their general style and the cuneiform script written upon a few by means of a stylus indicate that they belong to the Neo-Babylonian and possibly Persian periods. Unless the word of Arabs that they came from Ishân Hâfudh is false, they prove that the site in question had a long history.

2. Bismâya.

Extent of Ruins. The collection of mounds at Bismâya covers an area about a mile long, with a circumference of 3 miles. From Sukhairi, at a distance of about 7½ miles, the elevations of Bismâya are clearly visible. The general appearance of its contours is similar to that of Fâra. Upon approaching one gains the impression of compact débris with spurs rising at various places. Fig. 28 shows an excavated section of Bismâya.

Pottery and Flints. The ruins of Bismâya are singularly lacking in sherds with distinctive types of decoration, either painted or incised. No evidences of faience were noted. A good handful of flint artifacts, with fine specimens

¹¹⁰ Cf. *SAKI* p. 204; Könige von Isin, No. 1. Cf. Barton, *JAOS* 46, 3, pp. 231-236, for discussion of *Nin-urta* = *Nin-urash*.

of saw-blades, was found in wandering over the mounds. Part of a symmetrical arrow-head was obtained.

3. Tell Dulaihim.

Location and Size. About two miles almost due north of 'Ibra, which is a large town on the Shat el-Daghâra, a comparatively small mound is located. Its highest point rises 25 feet above the level of the plain and its base has a circumference of about one-tenth of a mile. Low accumulations of débris spread to the east of the mound. The western side of the *tell* has a broad and deep ravine.

Surface Remains. The mound yielded few distinctive ceramic specimens. No Arab faience or glassware was noticed. Two sherds with peculiar incised decorations and several flint saw-blades were found. Due to Arab diggings brick-work was exposed at two places. At an excavated spot on a low mound beside the main elevation the bricks were 1 ft. $2\frac{1}{4}$ in. square and $3\frac{1}{4}$ in. thick. In a cavity on the main mound the top part of a hollow, turret-like wall appeared. The rectangular bricks were $10\frac{1}{4}$ in. long, $5\frac{1}{2}$ in. wide and $2\frac{1}{4}$ in. thick. The diameter of the enclosure formed by this wall measured about 7 feet. Some of the bricks in this wall were chipped at the corners so as to be fitted with greater precision in the circular wall. No plano-convex or stamped bricks were observed. The general impression gained from the mound was that of antiquity, but its exact age and identity could not be determined.

4. Tell Drehem.

Location and Size. Tell Drehem¹²⁰ is located 3 miles east of 'Afaj and six miles southeast of Tell Nuffar. According to measurements its ruins are not quite four-fifths of a mile in circumference. At the highest point Tell Drehem is about 25 feet above the level of the plain.

Description of Surface. There are many evidences of Arab excavations at Tell Drehem. The whole surface seems to have been gone over in a search for antiquities, and this is in harmony with the fact that many early cuneiform documents have come from this site. Fragments of Sumerian tablets could be picked up here and there. Nothing special was found in the way of pottery, and this was also the case with regard to flints. Faience was not noted.

¹²⁰ Cf. references to Drehem in Hommel, *Ethnologie und Geographie des Alten Orients*, p. 1022.

5. Tell Nuffar.

Magnitude of Ruins. Tell Nuffar, the site of ancient Nippur, is situated 4 miles in a northerly direction from 'Afaj. With its various mounds rising 100 feet above the plain it is the only investigated site in the surveyed area which compares favorably with Warka so far as prominences are concerned. In extent it is much smaller, however, as the area covered by its ruins is not quite 200 acres.¹²¹ In other words, the remains at Warka¹²² are more than five times as widespread as those at Tell Nuffar. Despite this difference in size Tell Nuffar makes a strong appeal to one's imagination. Its majestic temple ruin, its lofty piles of débris, their division into two parts by a broad depression where an ancient stream flowed, and a dense profusion of pottery fragments scattered everywhere cause one to feel that its elevations are a worthy residuum of a city whose history ranged from the period of Sumerian kings to the era of Greek rulers.

Present State of Temple Area. The writer visited the uncovered temple of Nippur about a quarter of a century after the Museum of the University of Pennsylvania finished its final campaign at the site. It was surprising to note that such a small amount of weathering and crumbling had taken place. The general outlines of what had been revealed when work stopped in 1900 were still discernible, as can be seen in Fig. 29.¹²³ To be sure, there has been some yielding to the elements of nature. Edges which were left sharply defined have become somewhat rounded, rains have furrowed gullies which have carried sediment to the lowest levels, but the slowness of the process indicates that Mesopotamian mounds do not change very rapidly.

Pottery and Flints. In variety of pottery remains Tell Nuffar, as one would expect, equals Warka and excels most of the other mounds visited. Among the sherds gathered there is a fair representation of old painted ware similar to that found at Warka (Fig. 8). See Fig. 30 for types of Nippur painted ware. It is perhaps significant that at both Nippur and Erech skill in decorating earthenware with imposed colors should have been sufficiently developed at an early time to cause the ceramic fragments at both sites today to contain so many characteristic examples of an art, the peculiar style of which belongs to primitive-Sumerian times. Furthermore, Tell Nuffar proved to be exceptionally rich in sherds with incised decorations, some of which seem to conform more to ancient vogue than Arab patterns. Flints

¹²¹ Hilprecht, *op. cit.*, p. 541.

¹²² See note 45.

¹²³ See picture opposite p. 453 in Hilprecht, *op. cit.*

were found on the surface of Tell Nuffar, but there was no approach, even in a slight way, to the enormous quantities gathered at Warka. The two cities paralleled one another in history from the third millennium B. C. to within a few hundred years of our era. Cuneiform documents from both mounds are at hand to prove this. The question arises as to whether further light can be gained from pottery and flints. The answer can be in the affirmative so far as painted ware is concerned. Both cities existed in the age which is characterized by the type of pottery found at Tell el-Obeid, an age which according to Mr. Woolley preceded the early dynasties of Ur in the fourth millennium B. C.¹²⁴ From the standpoint of worked flints, if an aeneolithic date for them may be accepted, it would seem that Warka antedated Nippur as a large settled community.

F. East of the Euphrates between Dīwāniya and Khidhr.

Advancing southward from Dīwāniya to Khidhr, with main intermediate headquarters at Rumaitha and Samāwa, the mounds to the east of the Euphrates were studied as much as was feasible. Rising water in the canals and swamps adjacent to the Euphrates impeded this part of the survey. No former scrutiny of this region from the standpoint of possible ancient remains is known to the writer. Hence the mounds examined proved unusually interesting. The discussion of this part of the survey will follow the order in which the sites were visited. See Map 4 for chart of most of the mounds.

1. Tell Misrij.

Location and Size. About 13 miles southeast of Dīwāniya and 4 miles east of the Euphrates is a mound which local Arabs call Tell Misrij, although its name is written Masri on the Baghdād Surveys map. Its highest peak is about 20 feet above the level of the plain, and its circumference at the base is a little over half a mile. From the Euphrates it stands out as a very distinct elevation. A large irrigating ditch full of water reaches its environs and cultivated land was observed on all sides.

Surface Remains. Some incised pottery was found, but no painted ware was noted. At the same time the absence of faience and glassware suggested pre-Arabic remains. Worked flints were not observed. Uninscribed bricks were found, mainly at the summit of the mound. The standard bricks measured $11\frac{1}{2}$ in. square and 3 in. thick.

¹²⁴ Woolley, *The Antiquaries Journal*, 6, 4, 394.

2. Abû Sijim.

Location and Size. About 3 miles in a southerly direction from Tell Misrij is the mound of Abû Sijim. Located about $1\frac{1}{2}$ miles from the Euphrates, it rises to a height of 15 feet above the level of the plain. Its débris, some of which consists of low-lying elevations, is about four-fifths of a mile in circumference.

Surface Remains. Painted ware, faience, and glassware were not noted among the sherds. One flint artifact was discovered. Many broken bricks and some bitumen fragments were lying about. No complete brick was observed and no inscriptions were discovered.

3. Ishân el-Hamra.

Location and Size. Five and a half miles not quite due south of Abû Sijim and about a mile from the Euphrates is a mound indicated on the map as Tell Halmir. This is evidently a misprint, as local Arabs call the site Ishân el-Hamra. The total circumference of the ruins is a little over a mile. An isolated hill of the débris is 20 feet high and more than an eighth of a mile around the base.

Surface Remains. The pottery found here proved to be somewhat similar to that of Tell Misrij and Abû Sijim. Some unusual incised decorations were noted. The débris contained a little faience and glassware. No bricks were observed on the isolated mound, but there was a definite reddish color around the top as if of disintegrated bricks. Some broken uninscribed bricks were observed on the lower elevations.

4. Umm ud-Dûd.

Location and Size. The small mound of Umm ud-Dûd lies 10 miles south-east of Ishân el-Hamra and 4 miles from the Euphrates. Its height is between 7 and 8 feet, and its circumference is a little over a sixth of a mile.

Surface Remains. Most of the pottery is undecorated. Hardly any incised ware and no flints or bricks were noted, but some faience was found. The impression gained was that the mound does not belong to the age of the three preceding ones, but might be placed in the period of Arab occupation.

5. Abû Qarn.

Location and Size. Eight and one-half miles northeast of Rumaitha and 7 miles east of Umm ud-Dûd is a mound which is recorded on the map as

Muqarran. According to local Arabs its name is Abū Qarn. It consists mainly of a number of small mounds, the highest of which is 20 feet above the plain. The remains of an old wall could be seen curving out from this mound to the east and turning towards the south, apparently reaching other mounds of the group.

Surface Remains. A great deal of Arabic ware was found on the mound and scattered over the plain for miles. Bricks of clay and straw were found at the top of the highest elevation. There were some uninscribed burnt bricks on the side of the same mound and on the lower elevations. Much-worn bricks were $11\frac{1}{2}$ in. square and 2 in. thick; an unworn brick, 12 in. square and 3 in. thick.

6. Dalha.

Location and Size. A short distance northwest of Abū Qarn is a mound called Dalha, about 10 feet high and one-fifth of a mile in length, with a smaller, irregular width. A little northwest of Dalha is a smaller mound about 120 yards long and 10 feet high. Arabs connect this mound with Dalha. Neither mound has been charted upon maps.

Surface Remains. Both Dalha and its neighboring mound contain quantities of Arabic ware, faience, glass, and sherds decorated with dots. At the same time there exists a good deal of rough incised ware of unique designs. No bricks were found.

7. El-Hamra.

Location and Size. About 9 miles southeast of Abū Qarn and 11 miles almost due east of Rumaitha is a mound, not marked on the map, which is called El-Hamra by local Arabs. The site contains a circle of elevations, little higher than 10 feet on the average. There is a large level plain in the center of the ridges of débris, with a broad opening towards the north. The diameter of the area of ruins is about a quarter of a mile.

Surface Remains. The pottery of El-Hamra is very plain. Little Arab faience or glassware was found. Numerous uninscribed bricks, 11 in. square and $2\frac{1}{4}$ in. thick, were visible.

8. Ishān Abū Dannin.

Location and Size. Eight miles almost due north of Samāwa is Ishān Abū Dannin, a group of irregular mounds about 10 feet high, the greatest length of the ruined area being about 125 yards. The soft earth of the débris is marked with many gullies.

Surface Remains. The pottery observed was fair in amount and of ordinary character, although some fine thin ware was found. No faience or glassware was noted. A fragment of an uninscribed burnt brick was found on the highest elevation.

9. Abū Dhaliha.

Location and Size. Three miles a little to the southeast of Abū Dannin is the mound Abū Dhaliha of irregular form about 130 yards long and not quite 10 feet high.

Surface Remains. Pottery proved to be less in evidence than at Abū Dannin. Very little ware denoting Arab occupation was observed. Regular ridges of earth on the mound seem to be the remains of clay walls forming a rectangular enclosure. Examination disclosed no bricks.

10. Tell Ḥamar.

Location and Size. Tell Ḥamar is located 11 miles northeast of Samāwa, and 3 miles northeast of Abū Dhaliha. It consists of a collection of low mounds extending over a moderately-large area. Lack of time prevented obtaining exact measurements.

Surface Remains. Very little pottery was noticed and there were no sherds of a distinctive character. At one place Arab excavations had revealed a strongly-built wall. The bricks, 12 in. square and 3 in. thick, proved to be uninscribed. A thick whitish mortar was found between the bricks.

11. Ishān Imsawal.

Location and Size. About three miles southeast of Tell Ḥamar is Ishān Imsawal, recorded Ishān el-Masul on the map. It is about one-seventh of a mile long, very narrow, and less than 10 feet high.

Surface Remains. The few pottery fragments found possessed no distinctive characteristics. No bricks were noted.

12. Long Ridge of Sand.

Four miles east of Ishān Imsawal is the northern part of a long, narrow, mound-like formation. Its length is about 2 miles, and the highest point at the north is about 25 or 30 feet above the level of the plain. No vestiges of artificial construction were found. It has evidently been formed by drifting sand stopped by desert bushes. Many cone-like projections were noted at various places on its surface. Investigation showed that they consisted of

sand piled up around scrubby growths. Neither pottery nor bricks were observed. Some sherds were noticed on the plain nearby, but these were probably the result of Arab encampments, as a large inland lake was close at hand. From the highest point of this ridge Warka at a distance of 12 miles, Tell Ede at a distance of 16 miles, and what seemed to be Tell Hammām at a distance of 20 miles were plainly visible, with no intervening prominences appearing on the plain.

13. Conclusions concerning the Mounds east of the Euphrates.

This part of the survey was concluded with an interesting and instructive boat trip from Khidhr to within a short distance of Warka. High water in the Euphrates and adjoining canals and the consequent extension of the submerged area between the Euphrates and Warka made this possible. Thus the survey from Dīwāniya to Khidhr and Warka was linked with the survey from Nāṣirīya to Warka. This study of mounds not far from the east bank of the Euphrates revealed no antiquities which could be connected definitely with Sumerian or Babylonian times. Some remains suggested pre-Arabic occupation, but no clue was obtained as to how far back in the historic period we must go for the origin of the sites. Early mounds of importance should present some indubitable surface evidence of antiquity, such as plano-convex bricks or inscribed bricks. Nothing of the kind was discovered along the Euphrates between Dīwāniya and Nāṣirīya. It seems apparent, therefore, that what is now called the Shāṭṭ el-Hilla was not a main branch of the Euphrates in ancient times,¹²⁵ unless early débris of the mounds along its course has been entirely covered by the deposits of later occupations.

G. The Shāṭṭ el-Hai Region.

There is a branch of the Tigris, called the Shāṭṭ el-Hai, which, separating from the main channel at Kût el-Amâra, flows in a general southerly direction through lower 'Irâq. The indications are that it formerly lost itself, like the Shāṭṭ el-Kâr, in an extensive marsh from which a single stream emerged to unite with the Euphrates. At one time it apparently joined the Euphrates more directly, running in a more or less straight line from Shaṭra to the neighborhood of Nāṣirīya. During the Abbâsid period either the main channel of the Shāṭṭ el-Hai south of Kût el-Hai or a branch of it flowed in a more

¹²⁵ The permit for the survey did not include the west bank of the Shāṭṭ el-Hilla, but it could be observed from the east bank. No mound at all comparable with Warka or Tell Nuffar was noted immediately west of the Shāṭṭ el-Hilla between Dīwāniya and Nāṣirīya. The mounds of Ur and Eridu are southwest of Nāṣirīya.

easterly course through Wâsit, Tell er-Rasâfa, etc.¹²⁶ At present only a small part of the volume of the Shatt el-Hai reaches Shaṭra. A short distance above the town just mentioned there is a bend of the main channel to the east connecting with the submerged region which in the season of high water is a northward extension of Hammâr Lake.

The Shatt el-Hai, unlike the Shatt el-Kâr, has continued as an active part of the natural irrigating system of southern Mesopotamia. There are fluctuations in its volume due to the rise and fall of the Tigris. In this respect the Shatt el-Hai is a type of all unobstructed channels connected with the Tigris and the Euphrates, the varying flow of which determines the water-supply and prosperity of the country. Whereas the Shatt el-Kâr is an empty channel along whose course only ruins of former habitations may be seen, the Shatt el-Hai is a stream with flourishing towns, well-cultivated patches of ground, and attractive palm gardens at various points along its banks. However, there are good reasons for supposing that the present condition of the region through which the Shatt el-Hai flows is far inferior to what it was when the art of field irrigation and soil cultivation was practiced much more intensively and assiduously than now.

The journey from Nâṣirîya to Shaṭra was accomplished by means of an automobile. The swollen state of the Shatt el-Hai permitted easy travel by boat from Shaṭra to the north. At the same time there was opportunity for frequent stops in order to investigate both sides of the stream. Horses could be obtained, when necessary, for long trips in various directions from important centers. Floods in the ramifying channels connected with the Shatt el-Hai were advancing towards the high-water mark, and so the movements of the expedition on land were somewhat circumscribed. It was not always feasible to go by boat in canals radiating from the Shatt el-Hai towards mounds in the distance, as sufficient depth of water was liable to cease suddenly in a region where no horses were available for the continuance of the journey. Hence the original scope planned for this part of the survey had to be curtailed somewhat, and on this account Jôkha, the site of ancient Umma, could not be visited. The description which follows indicates what could be done in the allotted time.

1. Tello.

Location and Size. Ten miles due north of Shaṭra and three miles east of the Shatt el-Hai lies the famous collection of ruins known as Tello, the site of ancient Lagash. In our day Tello stands in a desert environment during the season of desiccation and has considerable marshy territory in its neigh-

¹²⁶ Streck, *Die Alte Landschaft Babylonien nach den Arabischen Geographen*, p. 38 f.

borhood during the season of high water. The débris consists of higher and lower elevations, the area of which is approximately oval in form, about $2\frac{1}{2}$ miles long and $1\frac{1}{4}$ miles broad. The two highest elevations are 50 feet and 56 feet above the level of the plain.¹²⁷ In impressive magnitude Tello does not compare favorably with Warka and Tell Nuffar, but belongs to the Senkera, Fâra and Bismâya class of mounds.

Present State of Ruins. Tello presents the appearance of a site deeply probed by excavations. As one wanders over the mound evidence of digging is encountered everywhere (Figs. 32 and 33). The ruins of ancient Lagash have seemingly been explored more thoroughly from an archaeological standpoint than any other site in southern Babylonia. The numerous campaigns of De Sarzec and Cros should be thanked for this. It is all the more surprising, then, that Arabs are still finding important antiquities at Tello. The prevalence of digging contrary to the Antiquities Law of 'Irâq has made it necessary to safeguard sites from such depredations. Even the best excavated mounds have not surrendered all their treasures.

Surface Remains. The pottery fragments of Tello proved disappointing. Nothing of the variety found at Warka and Tell Nuffar was observed. Evidently ceramic art at Tello did not advance beyond the stage of plainness in the treatment of the exterior surface of earthenware. Not a single example of painted ware was noted and no distinctive specimens of incised sherds were discovered. As one would expect, there was an absence of faience and glassware. A few flint artifacts were gathered. Among them were two or three saw-blades. Bricks stamped with the usual Gudea inscription were found at the ruins of the building erected by him. All in all Tello is exceedingly interesting as a site where Sumerian culture flourished during the latter part of the third millennium B. C. and where the Parthians had a center of population at the end of the first millennium B. C. What took place at Lagash between these two periods is unknown, as its ruins have furnished no records dealing with the historical interim.¹²⁸

2. Ishân Abû 'Amûd.

Location and Size. Nine miles northeast of Qal'at Sikar lies a collection of three mounds called Ishân Abû 'Amûd. The southeastern mound of the group is one-sixth of a mile in diameter and about 10 feet high. The mound farthest to the north is one-fifth of a mile in diameter and about 10 feet high. A smaller mound lies to the east of the northern mound.

¹²⁷ Hilprecht, *op. cit.*, p. 219 f.

¹²⁸ King, *op. cit.*, p. 20.

Surface Remains. All the mounds are covered with a general layer of soft débris, containing plain sherds of ordinary clay, faience of considerable variety, and glassware. The following brick measurements were taken: irregular large brick, 1 ft. $\frac{3}{4}$ in. square, from $\frac{2}{3}$ to 3 in. thick; small brick, 8 in. square, 2 in. thick. No inscribed bricks were found.

3. Tell er-Rasâfa.

Location and Size. Fifteen miles southeast of Ishân Abû 'Amûd, 17 to 18 miles southeast of Qal'at Sikar and 15 miles directly east of the Shatt el-Hai are impressive ruins called Tell er-Rasâfa, consisting of a somewhat narrow, ridge-like mound about half a mile long and 10 to 15 feet high. The terrain in which it is located is almost completely arid at the present time. This is true of all the region visited from Qal'at Sikar to Ishân Abû 'Amûd and Tell er-Rasâfa. No settled towns of any description were seen. It is known that at one time the Shatt el-Hai, or a branch of it, flowed by Tell er-Rasâfa,¹²⁶ but no evidence of this channel was discovered. Very thin patches of verdure, with the usual temporary Bedouin encampments in their vicinity, were noted only at great distances from one another in the desert.

Surface Remains. The surface of Tell er-Rasâfa is strewn with a thick layer of bricks, each 8 in. square and 2 in. thick, similar to the type of small brick found at Ishân Abû 'Amûd. At no other mound in the surveyed area was such a profusion of exposed bricks observed. There is a lack of soft débris at Tell er-Rasâfa which could act as a general covering of the ruins. It is evident from this that most, if not all, of the houses of the city which stood on the site in the final period of its existence were constructed of burnt bricks. The date of that period is indicated by a good deal of faience of the kind which prevailed in the 12th and 13th centuries A. D. Glassware was also noted. No other pottery fragments of consequence were found. Extensive search throughout the length and breadth of the mound failed to reveal inscribed bricks.

4. Abbâsid occupation east of the Shatt el-Hai.

The Abbâsid character of the surface remains of Ishân Abû 'Amûd and Tell er-Rasâfa is indicated by the presence of a type of decorated faience which was produced 6 and 7 centuries ago. Two small mounds, Tell ed-Duhaimi and Tell Quraiya, located almost in a straight line between Ishân Abû 'Amûd and Tell er-Rasâfa, yielded the same kind of pottery and bricks 8 in. square and 2 in. thick. The same is true of Ishân ez-Zuhain about 1½ miles almost due east of Dawîya and 20 miles directly south of Tell er-Rasâfa. All these

mounds represent extensive Arab occupation east of the Shāṭṭ el-Hai in the Abbāsid period, which is in harmony with the information given by Arab geographers.¹²⁶

5. Tell Medina.

Location and Size. Eight miles a little south of a westerly line from Shāṭṭra are the very extensive ruins of an ancient city. On some maps the site is called Tell Medina; on others Tell Medāin, which means "The Mound of Two Cities." On the Baghdād Surveys map of 1920 the western part of the mound is called Tell Medina, while the eastern part bears the name Tell er-Rakkiya. The two groups of elevations are separated from one another by a considerable distance, with a definite depression between them like the bed of an ancient stream. It is probably due to this that the site is called Tell Medāin by some. The débris of the western elevations extends $1\frac{1}{2}$ miles, with a width varying from one-tenth to one-fifth of a mile. The débris of the eastern elevations is more irregular in outline, with an extreme length of about a mile. The highest mounds are from 10 to 15 feet and approaching 20 feet above the level of the plain.

Partial Investigation by Loftus. The existence of Tell Medina was brought to the attention of the world by Loftus. In 1854 one of his Arab excavators made a brief investigation of the ruins.¹²⁹ The finds were some articles of copper, plain pottery of the Senkera type, brick-walled tombs containing human skeletons, and one cuneiform tablet. Since then, so far as available records indicate, no archaeologist examined Tell Medina until the writer visited it on March 5, 1926. Sachau, who journeyed from Senkera to Shāṭṭra in 1898, saw the ruins of Tell Medina on his left but did not go to them.¹³⁰ It may be that the meager results obtained by Loftus prevented interest in the site through all these years, but the following data will show that Tell Medina in all likelihood has great potential value as a source of antiquities.

Ceramic Remains. The vast majority of the sherds observed at Tell Medina proved to be undecorated. One piece incised with a wavy line was found. The only approach to painted decoration was on a baked clay bead which had a dark band around it. Not a single specimen of faience or glassware was noticed in the extensive search which was made. A general conclusion is that the pottery of Tell Medina is like that of Tell Senkera and Tello, and not like that of Warka, Fāra and Tell Nuffar.

¹²⁶ Loftus, *op. cit.*, pp. 263-267.

¹²⁹ Sachau, *op. cit.*, 70. Sachau describes the site as "eine den Altertümern-Händlern am Schāṭṭ-Elhai wohlbekannte Fundstätte von Thontafeln."

Flint Artifacts. The absence of numerous examples of worked flints again links the mound with Tell Senkera and Tello rather than with Warka and Fâra. However, a few good specimens of saw-toothed flints were obtained.

Bronze Objects. Several fragments of small bronze vessels were found. The most striking object was a bronze needle (Fig. 31d) with the point broken off. While these objects suggest antiquity, they cannot be used as definite criteria for dating.

Black Stone Fragments. Scattered over the surface of Tell Medina are a good many fragments of black stone, probably diorite. Some of them have the appearance of being worked. Originally they must have belonged to stone vessels or utensils.

Door Socket. A door socket of white stone, its greatest measurement being 1 ft. 4 in., was found on the surface of the mound (Fig. 34). Another white stone of similar size was found with a hole completely through it (Fig. 35). This does not have the appearance of a door socket, but may have been used for fastening a rope at a well, or it may have been used as a weight for anchoring boats. A mortar worn through with much use is also suggested. Both stones are uninscribed.

Exposed Brick-work. The tops of brick walls appeared on the surface of the mound. Some of the walls are circular; others are straight with walls branching off at right angles. In a few cases the bricks are not lying flat, but are inclined a little from a perpendicular position.

Sizes of Bricks. In a circular wall whose outer diameter is 5 ft. and whose inner diameter is 3 ft. 4 in. bricks were found measuring 19 in. by 6 $\frac{1}{2}$ in. by 3 in. In a straight wall the bricks proved to be 9 $\frac{1}{2}$ in. by 6 $\frac{1}{2}$ in. by 3 $\frac{1}{2}$ in. Other measurements obtained were 14 in. square and 3 in. thick; 12 $\frac{1}{2}$ in. square and 3 in. thick; 6 $\frac{1}{2}$ in. square and 3 in. thick. On some bricks finger marks of parallel lines were noted.

Inscribed Bricks. Stamped bricks proved scarce, but much search was rewarded with the discovery of two bricks (Figs. 41 and 42) bearing a well-known inscription of Bûr-Sin, king of Ur.¹⁸¹ The inscription of one of these bricks had been partially obliterated by chiseling (Fig. 42). It is difficult to suggest a reason for this act.

Nature of the Site. All surface remains agree in indicating an early date for the city represented by the ruins of Tell Medina. Not a single object indicating occupation by Arabs was found. This suggests that it was aban-

¹⁸¹ SAKI p. 196, b, under Pûr-sin (Bûr-sin?).

doned in ancient times and never re-occupied. Local Arabs tell of tablets coming from its débris. The identity of the site was not discovered. Excavations at Tell Medina, which could be carried on with Shaṭra as a base, would solve the problem of its real nature.

H. From the Shaṭṭ el-Hai to the Hammâr Lake Region.

East and southeast of the lower part of the Shaṭṭ el-Hai is a territory which is subject to much inundation. The great expanse of water which collects there cannot be contained within ordinary canals, but spreads over the land forming wide lakes connected with one another, at some places by narrow streams, at other places by broad straits. In the period of greatest submergence districts which are cultivated at other times of the year are completely covered, and strenuous efforts must be put forth by Arabs to protect fields where crops are growing. Strong dikes are built and guarded carefully, as weak spots must be repaired as quickly as possible. To the south of this region, which is so extensively flooded in the season of high water, is Hammâr Lake, a permanent enlargement of the Euphrates river. The last part of the survey was a boat trip of more than a week from Shaṭra to Dawiyâ and then south to the Hammâr Lake region from which it was possible to proceed up the Euphrates river to Sûq esh-Shuyûkh and finally to Nâṣirîya. This journey by water permitted a supplemental study which contributed not a little to the general conclusions which were reached.

In traversing these inland seas, many of which adjoin wide swampy districts, there was opportunity for contact with the little-known Marsh Arabs, who dwell in reed huts of primitive type and travel about by means of boats of ancient style. The meager information which has come to us concerning these denizens of the morasses of southern 'Irâq has emphasized their wild and hostile character. In the past they have shown hardly any amenability to civilized rule, but recent years have ushered in conditions which have made it less dangerous to venture among them. In their part of the land long reeds and tall palm trees flourish. Fish abound and different kinds of waterfowl are present in abundance. Reeds, dates and fish are the main commodities with which they supply their own needs and carry on trade with other parts of 'Irâq. The camel is of little use to them, but its place in certain respects is taken by the water buffalo. The scene presented by a herd of these animals moving through reeds in a submerged district accompanied by a Marsh Arab singing his weird songs is picturesque in the extreme. Everything is strongly suggestive of the earliest forms of life north of the Persian gulf. Naturally the study of conditions among the Marsh Arabs proved most absorbing. Their practices and habits made a strong appeal because they reflect primitive culture

so remarkably. At the same time, interest in the mounds of ancient cities did not wane, although there were few important sites to be studied in this part of the survey. The two large collections of ruins which came under observation will be described briefly.

1. Ishân el-Hibba.

Location and Size. About 14 miles due east of Shaṭra lies the extensive mound of Ishân el-Hibba. The extreme length of the débris, running from northeast to southwest, is about two miles, with a width varying from one-tenth to three-tenths of a mile. The total area equals nearly 1400 acres,¹³² which indicates that it is one of the large sites of southern Babylonia. The highest part of the mound, in the northeast (Fig. 37), is approximately 30 or 35 feet above the level of the plain.

Pottery and Flints. Most of the pottery specimens observed were plain. Some examples of incised decoration were found, but no faience or glassware was discovered. As a whole the sherds at Ishân el-Hibba proved very much like those at Tell Medina, and entirely different from those at Tell er-Rasâfa. A few rough flints, some examples of saw-blades, several fragments of bronze, and a piece of a small alabaster vase added variety to the finds at Ishân el-Hibba. Some large jars were found in an upright position with broken rims level with the surface of the débris. Upon examination their contents proved to be nothing but soft earth.

Exposed Walls. As at Tell Medina the tops of walls appeared on the surface of the mound. It was possible at one point to trace the clay wall, 1½ feet thick, of a room 20 feet square. At another spot a circular wall of baked bricks was observed. The bricks stood on end slightly inclined from a perpendicular position. Many well-like structures of considerable depth were revealed at Ishân el-Hibba by the German excavations.¹³³

Finger-marked Bricks. Mention should be made, first of all, of examples of plano-convex bricks marked not by finger-strokes but by what appeared like two indentations made by pressing in the tips of fingers. Some large flat rectangular bricks were found to be marked by finger-strokes. Others had two parallel finger-strokes running close together with a stroke in the form of a half circle joined to one of the lines (Fig. 43). One brick with diagonal strokes across its main surface represents an interesting type.

Inscribed Bricks. Three bricks with a well-known Gudea inscription¹³⁴ were found on the mound. Only two of the bricks bore complete inscriptions,

¹³² Hilprecht, *op. cit.*, p. 282.

¹³³ See references under note 37.

¹³⁴ SAKI p. 140, q.

but enough of the text remained on the third brick so that the inscription could be identified. Fig. 44 represents the best of the three bricks.

Nature of the Site. Koldewey concluded from a brief period of excavation that the ruins of Ishân el-Hibba were simply a vast necropolis,¹³³ due to the fact that the main archaeological data found by him proved to be funereal, such as ashes representing cremation. He uncovered numerous houses of baked bricks lining streets of great length. It was believed that drains for the ancient cemetery were discovered. In this connection the recent discoveries at Ur¹³⁵ should be taken into account, for they prove that house burial was common among the Sumerians and that what seem like drains were used in all probability for making offerings to the underworld. Hence it is possible that Ishân el-Hibba was a large, fully-inhabited town in Sumerian times. The extensive presence of burial remains does not militate against this view. However, the identity of the site is yet to be discovered.

2. Surghul.

Location and Size. In published archaeological maps this mound is placed much farther north than it should be, i. e., to the north of Ishân el-Hibba, whereas it is really about 5 miles southeast of it. In area it is much smaller than Ishân el-Hibba, as it covers only about 200 acres.¹³⁶ It has two main elevations, the higher of which rises about 45 feet above the level of the plain (Fig. 38). The smaller one is only about 25 feet high. The larger one has a deep cut at its summit made by the German excavators. The mound of Surghul is usually at some distance from the water's edge, but on March 9, 1926, the writer was able to approach almost to its base by boat.

Pottery and Flints. The sherds observed proved plain and undecorated. Neither early painted ware nor faience or glassware was found. Only one piece of roughly-incised ware was noted. Several flint saw-blades, better than those at Ishân el-Hibba, were secured. The general aspect of the surface remains at Surghul is the same as at Tell Senkera, Tell Medina, Tello, and Ishân el-Hibba.

Ancient Bricks, etc. Few unbroken bricks were discovered at Surghul, nor were plano-convex bricks observed. Finger-strokes somewhat similar to those noticed on the bricks at Ishân el-Hibba were noted. Portions of bricks

¹³³ Woolley, *The Antiquaries Journal*, 6, 4, pp. 397-401. Note *ibid.*, p. 398, for a reference to the discovery of similar drains in connection with graves at Fâra (*MDOG* 17, p. 8 f.).

¹³⁵ Hilprecht, *op. cit.*, p. 282.

stamped with a Gudea inscription¹³⁷ were picked up. A part of a cone with a similar inscription was secured. No tops of walls appeared as at Tell Medina and Ishân el-Hibba, and no evidences of brick-work were seen in the cut at the top of the main elevation.

Nature of the Site. There need be no doubt as to the antiquity of the mound of Surghul. It existed contemporaneously with Tell Senkera, Tell Medina, Tello, and Ishân el-Hibba. This is the story which its débris reveals. It is probable that both Surghul and Ishân el-Hibba represent Sumerian sea-coast towns which flourished at a time when the Persian gulf extended much farther to the north than at present.

V. SUMMARIZED RESULTS OF THE SURVEY.

Some general conclusions can be presented in a summary of the results of the survey. Evidences of ancient survivals in southern 'Irâq deserve discussion in a separate section of this report, but it should be noted here that the inferences derived from their observation form an appreciable part of the outcome of the archaeological tour. In the vicinity of ruins various objects were bought from Arabs who specified the mounds from which they had secured them. While antiquities obtained in this manner have real value in themselves, their dependability in throwing light upon definite archaeological sites is minimized because they were not found *in situ* during the survey. Hence the main criteria considered in this summary will be bricks, pottery, and stone artifacts. There has been no attempt to theorize concerning the identity of a site from which no suggestive data came. Various conjectures might be hazarded in some cases, but it is best to remain within the scope of scientific statement. The questions discussed under the following headings indicate some of the uncertainties as well as final conclusions resulting from an archaeological survey of the type which has been described.

A. General Archaeological Data.

An archaeological survey should seek to establish with precision the number of mounds which exist in the region under investigation. In addition, the different types and varying ages of ruins should be ascertained with as much completeness as possible. These three kinds of data were collected in the surveyed area.

Profusion of Mounds. Evidences of past occupation exist in all parts of the investigated territory. Accumulations of débris are so numerous that no

¹³⁷ SAKI p. 142, v, and note e.

day of the actual survey was without opportunities for the examination of ancient remains at one site at least. Occasionally a number of small sites could be visited in a single day. Unless prevented by local conditions, each large site was studied for several days. The profusion of ruined centers of population produced an unforgettable impression of the past prosperity of the land. It was not possible to examine every *tell* in the area which was surveyed. If the opportunity presents itself the writer hopes to be able to add to the data gathered. The investigation was inclusive enough, however, to furnish definite information as to the great number of archaeological sites which exist in southern Babylonia. It is not necessary to enumerate them here, as they have already been named and described.

Types of Ruins. An understanding of the different types of ruins discovered can be brought about by citing the most recent ones first and then giving instances of older ones until the most ancient period is reached. Their mention in this order will give some idea of different stages in the development of débris. Remains of clay structures deserve prior consideration. The ruins at Khanazrīya (Fig. 21), the clay roofs of the houses having fallen in, represent a village in the initial state of decline. The remains at Mu'azzab (Fig. 45) show more signs of crumbling due to weathering and hence are older. Abū Qarn (Fig. 46) and Tell Sha'ūsh (Fig. 47) are examples of almost complete disintegration so far as surface remains indicate. The Tell Hammām bastion (Fig. 16) has withstood change longer because of construction of clay and straw bricks with intervening reed layers. Tell Ede (Fig. 18) is an example of a ruin which consists of a great pile of earth with no evidences of brick-work visible. Structures of burnt bricks last longer than those of ordinary clay. This is indicated by the fortress at Falehīya (Fig. 17). It has been deserted, possibly for a score of years, but not much sinking into ruins is evident. A far different stage of disintegration is presented at Tell er-Rasāfa, the surface of which is covered with thousands of burnt bricks with no vestiges of standing walls. Ishān Hāfudh represents the small mound with remains of extreme antiquity beneath the surface. Ishān Bahriyāt stands as a type of mound the débris of which contains inscribed bricks of little value in final site identification. El-Bahri Sharqi is a small mound with surface remains ranging from great historical antiquity to the Abbāsid period. Tell Medina, Ishān el-Hibba (Fig. 37), and Surghul (Fig. 38) are examples of very old mounds with no evidences of Arab occupation. Tell Senkera (Fig. 14) represents a known ancient site hardly touched by real excavations. It may be compared with Tello (Figs. 32 and 33), a similar mound, which has been excavated very extensively. Tell Nuffar, Bismāya, and Fāra are other examples of partially-investigated mounds. Warka, as a collection of ruins

far surpassing all others in the surveyed area, stands in a class by itself, containing great archaeological treasures as yet slightly investigated by scientific excavations (Figs. 1-3, 9-13). Other mounds might be mentioned, but the main types have been listed.

Antiquity of Sites. The survey emphasized the fact that the age of mounds cannot be determined by their size. An unimpressive mound like Ishân Hâfudh was found to contain remains of real antiquity. A large mound like Tell er-Rasâfa yielded nothing in the way of ancient remains, so far as surface débris is concerned. This indicates that a site may be small because it was occupied in a limited way for a very brief time in antiquity and then entirely abandoned, whereas an extensive site may represent a large settlement in the Mohammedan era with no known prior occupation. Furthermore, surface indications cannot always be made the basis of final conclusions in débris examination. This reservation must never be overlooked when drawing inferences from an archaeological survey. With regard to mounds like Tell Medîna, Ishân el-Hibba, Surghul, and Ishân Bahriyât, one can be certain, due to the existence of only ancient surface remains. At other mounds, such as Tell Misrij, Abû Sijim, and Ishân el-Hamra, there are no clear remains of Arab occupation and at the same time no positive evidences of connection with Sumerian or Babylonian days. Tell Ede and Tell Hammâm are further examples of ruins the age of which it is difficult to judge. These instances indicate very plainly that extensive digging is necessary for the determination of the real nature of many sites.

B. The Testing of Archaeological Criteria.

The science of Mesopotamian archaeology is still in its initial stage. This is particularly true of topographical exploration for the purpose of débris examination and site identification. Certain general criteria may be used, but their value should be estimated with care.

The Importance of Bricks. Bricks which have been hardened by firing are among the most enduring of antiquities. Their presence on truly ancient mounds is a phenomenon which has been known for a long time. The oldest well-recognized type is the plano-convex brick of the pre-Sargonic period. Hence the finding of bricks of this shape at a site is a clear indication that the débris goes back to very early historical times. Ancient Sumerian and Babylonian kings, when erecting buildings, had many of the bricks stamped with inscriptions containing their names, titles, etc. If it had been the custom to use a certain inscription for one city and for no other, more dependence could be placed upon inscribed bricks for the purpose of site identification—

especially if there is a reference to the erection of a temple—but bricks containing identical inscriptions of Sumerian kings have been found at different sites.¹³⁸ It is also conceivable that some ancient mounds have no remains of buildings erected under royal direction, and therefore one could hardly expect to find inscribed bricks at such sites. Cuneiform tablets are far more valuable for purposes of débris identification, but they are more difficult to secure. When Arabs obtain them they do so as the result of much digging, and their finds have led to scientific investigations at important sites, but one cannot undertake to search indefinitely at a mound for clay tablets in an archaeological survey without changing it into a campaign of excavation.

The Importance of Pottery. Ceramic remains were found at all places of former habitation in the surveyed area. Since a good grasp of all phases of Mesopotamian pottery relationship and sequence remains to be attained, the value of sherds of different types in the determination of the origin and duration of a human settlement at a particular site was found to be somewhat limited. Early painted ware of the Tell el-Obeid type was found principally in excavation refuse at Warka and Tell Nuffar. Incised ware was discovered to be much more universal. The proximity of crudely-incised ware with sherds of undoubted Arab origin makes it difficult to know how far back the potter's rough work in incised decoration goes. Much more needs to be done in sifting these types of pottery chronologically before standardized modes of judgment can be established. As to faience of Arab origin we are on much surer ground. Its characteristics are so distinct and so easily recognized, as compared with older glazing of the same kind, that its presence or absence at a site may be used for final conclusions. The same can be said of Arab glassware usually found with faience. From the present state of our knowledge it would seem that the only reliable Mesopotamian pottery for dating purposes in the surveyed area is old painted ware and Arab faience. So far as present evidence is concerned, the former establishes a date in or prior to the first part of the fourth millennium B. C.,¹³⁹ and the latter a date about six centuries ago.

The Importance of Stone Artifacts. The regularity with which artifacts of flint and obsidian, particularly saw-blades, occur throughout southern Babylonia is worthy of note. It is true that few specimens were found at most

¹³⁸ E. g., Ur-Ninurta inscription found at Tell Nuffar and at Ishān Ḥafudh. See note 119. Another good example is the brick inscription of Būr-Sin found at Abū Shahrein (Eridu), Abū Ḥatab (Kisurra), and Ishān Bahriyāt, the supposed site of Isin. See note 116 and cf. *SAKI* p. 196, b, and note i.

¹³⁹ See note 124. Cf. *Bulletin of the American Schools of Oriental Research*, 21, pp. 12-14. Cf. Frankfort, *Studies in Early Pottery of the Near East*, I, Ch. IV.

places, but the fact that some were found practically everywhere indicates how ubiquitous this type of ancient fabricated object is. If archaeologists are correct in ascribing them to prehistoric or early historic times,¹⁴⁰ it is important to make a special study of their provenance, as this would indicate how widespread early settlements were in this region and would determine which were the largest centers of primitive culture. Granting an early date for stone artifacts, the evidence indicates that Warka was the most extensive early historic, if not prehistoric, center of population in the surveyed part of southern Babylonia. At the time when man began to record events upon stone and clay Warka seems to have been a strong city, exercising an influence over the lower part of the Tigris-Euphrates valley. In harmony with this is the fact that, according to available documents, the earliest dynasty of Erech preceded the first kings of Ur.¹⁴¹ Fâra, the site of ancient Shuruppak, is the only other collection of débris which furnished great quantities of stone artifacts. This is significant inasmuch as the Gilgamesh Epic mentions Shuruppak as the home of Ut-napishtim, the Babylonian flood hero.¹⁴² On this basis, sites in the surveyed area which yielded few flints must have been small settlements in the prehistoric period when Erech and Shuruppak were of considerable size. Furthermore, the stone artifacts found in alluvial Mesopotamia indicate commercial contact with countries capable of supplying flint and obsidian.

C. The Need for Further Archaeological Investigation.

The primary object of the survey was to gather as many archaeological facts as possible from formerly occupied sites. The ultimate object was to gain a general idea of the archaeological task which remains to be accomplished in the surveyed area. All that was observed indicates that only a few of the archaeological potentialities of the land have been realized.

¹⁴⁰ Koldewey, in *The Excavations at Babylon*, p. 261, refers to them as "palaeolithic saws of obsidian and flint." Professor G. G. MacCurdy of Yale University has expressed the view to the writer that they may belong to the stone-copper, or aeneolithic age. The possibility that they were used in later times is indicated by De Morgan in *Délégation en Perse*, 1, p. 191. Cf. King, *op. cit.*, p. 326 f, for a discussion of this question with reference to Egypt. See *The Journal of Egyptian Archaeology*, Vol. 8, p. 253, for Hall's excellent discussion of saw-blades and other stone artifacts.

¹⁴¹ Cf. Clay, *JAOS* 41, part 4, pp. 241-263. In Genesis 10: 10 Erech is the only southern Babylonian city mentioned, which may be another indication of the priority and importance of the city in the region designated. Further intimation of the early prominence of the city is furnished by the composition of the oldest triad of Sumerian and Babylonian gods, Anu, Enlil, and Ea, the chief member of the group being Anu, the god of heaven and the patron deity of Erech. It should be noted also that Gilgamesh, an ancient king of Erech, was the character whose deeds gave rise to the Gilgamesh Epic.

¹⁴² Cf. references under note 102.

Excavations not Complete at Any Site. Thus far there has been no exhaustive digging at a single mound in the region of southern Babylonia which was investigated. Even where campaigns of excavation have been carried on for long periods, as at Tello and Tell Nuffar, and for short campaigns, as at Warka, Fâra, etc., Arabs are able to find valuable antiquities at the present time. The scientific exploration of débris requires careful investigation layer by layer. The mere digging of long trenches through mounds is no longer regarded as sufficient. Methods employed at Ur by Mr. Woolley and his staff indicate how excavations ought to be conducted so as to assure the recovery of all antiquities, the reconstruction of the plans of ancient buildings, and the proper dating of every object found.

Opportunities for Excavations at New Sites. Many mounds which give promise of throwing much light upon the past await the first attempt at scientific investigation. There is no dearth of sites for those who wish to engage in pioneer archaeological work. Four such mounds, *viz.*, Tell Senkera, Tell Medina, Ishân Bahriyât, and Jôkha, are located strategically with respect to ancient areas of Sumero-Babylonian culture. Much smaller mounds, such as El-Bahri Sharqi and Ishân Hâfudh, need not be regarded as unworthy of investigation. Surprising results might be obtained by investigating some of the mounds along the eastern bank of the Euphrates. It would also be valuable to exhaust the possibilities of a mound like Tell er-Rasâfa, although excavations would be difficult on account of the surrounding desert.

Present Conditions Favorable for Excavations. Under Turkish rule it was far from easy to obtain a *firman* to excavate in Mesopotamia. Today under the more generous Antiquities Law of the 'Irâq Government permits to excavate may be secured by accredited organizations with the necessary means and a properly-trained staff of workers. Half of the antiquities found belong to the Baghdâd Museum. In the next place, conditions are more settled among the Arab tribes of 'Irâq, and they are anxious for the economic help which every fresh expedition promises. Thus a new era in archaeological work in 'Irâq has started and this bodes well for the future.

VI. SURVIVALS OF SUMERO-BABYLONIAN CULTURE.

Babylonian society, literature, and religion remained permeated with Sumerian elements for two thousand years—from the latter part of the third millennium B. C. to the latter part of the first millennium B. C. During another two thousand years desolate mounds stood almost as sole reminders of former empires and dynasties. However, within a hundred years of our day a new era has dawned due to the decipherment of cuneiform writing.

The translation of Sumerian and Babylonian documents and the finding of numerous examples of ancient art have restored to mankind a knowledge of the civilization which flourished centuries ago in the land of the two rivers. A recovered picture of the past is highly interesting in itself, but it becomes more fascinating when one is able to link it with clear cases of survival. In the following discussion it is possible to do little more than mention the formerly-known as well as recently-discovered evidences of Sumero-Babylonian survivals which were observed in the surveyed region.

A. Survivals of Agricultural Methods.

In discussing survivals of the past in 'Irâq it is natural to begin with the basic occupation, *viz.*, agriculture. Cuneiform documents ranging in date from Sumerian to Seleucid times indicate the intensive manner in which the earth was made to produce its yield in grain, fruit, and herbage. While the present state of the country falls far short of its past prosperity, it is apparent that agricultural methods in use today are essentially the same as those which were known to the Sumerians and the Babylonians.

Preparation of the Soil. The alluvial plain of the Tigris-Euphrates valley has long been noted for its fertility. Complete overturning of the soil to a considerable depth by means of plowshares was not found necessary, so far as we know, by the ancient inhabitants of Mesopotamia and is not considered a prerequisite by Arab farmers in 'Irâq today. The best portraiture of the ancient plow in action was published by Professor Clay.¹⁴³ A scene representing the modern plowman in 'Irâq is shown in Fig. 48. The present inhabitant of Mesopotamia sometimes prepares the soil by digging (Fig. 49) or by hoeing (Fig. 50). Shovels and hoes were known in antiquity.¹⁴⁴

Division of a Field into Sections. The oldest preserved form of the cuneiform ideogram for field is shown in Fig. 51, a.¹⁴⁵ An explanation for this is suggested by a practice followed by Arabs in southern 'Irâq.¹⁴⁶ More or less rectangular portions of ground lying along an irrigating ditch are surrounded by moderately-high embankments. The areas within these embankments are subdivided into small rectangular sections by slight transverse embankments, not ditches. Water from the bordering irrigating canal can be let into any one of these sections of a field, or from one section of a field into another by making openings in the embankments which act as boundaries. It is very likely that the ideogram for field which is of Sumerian origin represents a

¹⁴³ *UMBS* 2, p. 66. Cf. Meissner, *Babylonien und Assyrien*, 1, p. 193 f.

¹⁴⁴ Meissner, *op. cit.*, p. 195.

¹⁴⁵ *OBW* No. 119.

¹⁴⁶ Koldewey, *op. cit.*, p. 21.

similar agricultural procedure in antiquity. The line which protrudes at both ends of the ideogram may represent an irrigating ditch, while the transverse lines may represent embankments dividing the field into sections.

Barley and Date Cultivation. Numerous cuneiform records show that the ancient residents of Mesopotamia devoted their main agricultural efforts to the growth of barley and dates. Although barley and dates are grown extensively in 'Iräq today, barley takes precedence no longer among cereals, due to the intensive cultivation of rice in the southern part of the country. At present rice is the most dependable foodstuff among the tribes, with wheat as a close rival, while barley takes first place among exported cereals. So far as dates are concerned, it is estimated that 'Iräq produces eighty per cent. of the total date crop of the world. Neo-Babylonian texts give examples of leases of land for date cultivation, with provisions for planting trees, surrounding them with a wall, and supplying them with water.¹⁴⁷ The same methods are followed today, as shown in Fig. 52. Fig. 53 shows the interior of a dense palm grove. Comparison should be made with the old Sumerian ideogram for "garden" or "grove," composed of an irrigating ditch plus two trees (Fig. 51, b).¹⁴⁸

Land Ownership and the Payment of Rent. While there was private ownership of land in Mesopotamia in ancient times, there is abundant evidence that temples had vast land-holdings. Individuals could rent small or large areas of land by applying to temple officials or to the king. Rent was usually paid in kind. For examples of such leases of land see *REN* 11, 26, 33, 40, 67, and 150. If a man failed to attend to his crops properly he was required to pay according to the yield in adjoining fields.¹⁴⁹ The same system prevails today. A large part of the land, formerly vested in the Turkish Government, is now controlled by the Kingdom of 'Iräq. Land is rented by Arabs who pay for its use from the products obtained, with the provision that if negligence causes a poor crop, rent must be paid on the basis of the harvest produced in neighboring fields.

B. Survivals of Methods of Irrigation and Transportation.

Certain forms of Sumero-Babylonian culture owed their origin to the fact that it was necessary to control floods and induce a regulated flow of water in all parts of the land by means of a network of irrigating channels suffi-

¹⁴⁷ *REN* 33: 10, 11; 67: 10-12.

¹⁴⁸ *OBW* No. 170. Cf. Meissner, *Festschrift Eduard Sachau*, pp. 22-25 for a discussion of Arabic *tebelje* = Assyrian *tubalû*, i. e., the rope used as a loose belt for climbing a palm tree.

¹⁴⁹ Harper, *The Code of Hammurabi*, §§ 42, 65.

ciently deep and advantageously connected with one another. Easy transportation was also made possible by streams and canals. Through successive periods of Mesopotamian history there has been little change along these lines. It is true that great stretches of the country have become desiccated, but evidences of old customs remain wherever districts are plentifully watered.

Digging of Canals. The earliest historic period in Mesopotamia is noted for Sumerian records which contain many references to the digging of canals. In an era when a year was named after a prominent event which took place in it, there are not a few cases of chronology being fixed by the excavation of a large channel or the enlargement of a river-bed.¹⁵⁰ In other words, digging a canal ranked in importance with such achievements as building a temple,¹⁵¹ erecting a fortress,¹⁵² devastating a city,¹⁵³ or defeating a hostile army.¹⁵⁴ The Code of Hammurabi contains laws which indicate that it was necessary to provide for the strict control of water in irrigating ditches.¹⁵⁵ Neo-Babylonian contracts refer frequently to laborers hired to dig canals.¹⁵⁶ That this art has not been forgotten is proved by many scenes witnessed by the writer in 'Irâq. A particularly vivid impression was produced by numerous Arabs at work with their shovels in the construction of a long, deep canal.

Raising Water by Artificial Means. At present Arabs in 'Irâq use different methods for raising water so as to utilize it in the production of crops. The *nâ'âr*, a current-propelled wheel with earthen jars fastened to its rim, is common in the upper Euphrates region. The following devices are found in southern 'Irâq, but are not confined to that part of the country. The *jerd* consists of a mechanism whereby water is raised in leather buckets by means of long ropes running over large, pulley-like wheels and drawn by animals which move up and down a slight incline. A simple device for lifting water a foot or so is a shallow bitumen-covered basket with four ropes attached, by means of which two persons standing opposite one another may dip and raise the basket. Another method used is a chain of buckets kept moving by a horse or donkey. The *dâliya* (Fig. 54) is a contrivance like the *shadûf* of Egypt. It consists of a swing-pole fastened to a transverse bar. At one end of the pole is a weight; at the other end is a rope or rod and bucket. Of all the methods for raising water in 'Irâq the *dâliya* is the one which may be connected definitely with ancient life in Mesopotamia. A sculptor who helped

¹⁵⁰ *Grice Chrñ* pp. 15-43, e. g., p. 27; 8th year of Rim-Sin.

¹⁵¹ *Ibid.*, p. 15; 16th, 18th, and 24th years of Gungunum.

¹⁵² *Ibid.*, p. 23; 10th year of Warad-Sin.

¹⁵³ *Ibid.*, p. 17; 4th year of Sumu-ilu.

¹⁵⁵ *Harper, op. cit.*, §§ 53, 55.

¹⁵⁴ *Ibid.*, p. 29; 15th year of Rim-Sin.

¹⁵⁶ *AENN* 268.

to decorate the palace of Sennacherib has furnished us with a picture of the *dâliya* of Assyrian times (Fig. 55),¹⁵⁷ and a contract of the time of Nabonidus provides for the drawing (*a-na da-lu*) of water.¹⁵⁸

Transportation on Water. Assyrian sculptures contain representations of boats in the marshes of southern Babylonia showing fishing, hunting, and fighting scenes.¹⁵⁹ Ordinary transportation is also depicted. Neo-Babylonian records indicate that there was special use of water for the carrying of produce, etc., in the time of greatest inundation. It is stated in leases of land that the rent, consisting of barley and dates, is to be delivered "upon the great waters" (*ina eli mē rabûti*), i. e., at a time when travel is least difficult on account of full channels and wide stretches of submergence.¹⁶⁰ According to reliable information the same thing is true today. Figs. 56 and 57 show good examples of the kind of traffic in southern 'Irâq today "upon the great waters."

Different Kinds of Water Craft. The extent to which water is used for transportation in 'Irâq at the present time is indicated by the employment of several different kinds of vessels. The *quffa* is a basket-shaped boat of wicker-work covered with bitumen. *Belam* is a term applied to any small boat. A swift canoe is called *tarrâda*. Any boat or ship without motor power is called *safina* (Fig. 58). *Mašhûf* is the name applied to the long, high-prowed boat (Fig. 59) of the Marsh Arabs. A large ship of slow motion is called *mahaila*. On the Tigris the *kelek*, a raft floating upon distended hides, is used. An inflated skin is employed in swimming across a stream. Assyrian sculptures¹⁶¹ indicate that the *quffa*, *kelek*, and single inflated animal skin were used in Mesopotamia long before the beginning of our era. One may well believe that they originated as contrivances for traversing bodies of water in the primitive period of man's history.

The Towing of Boats. A common practice at the present time in southern 'Irâq is to tow boats (Fig. 60) when lack of wind makes sails useless or when it is necessary to proceed against a strong current. This method of boat propulsion has already been described on page 8. The men who are towing a boat have loops of rope, fastened to the main rope, around their shoulders—

¹⁵⁷ Paterson, *Assyrian Sculptures, Palace of Sinacherib*, pl. 32-33. Herodotus, I, 193, states that irrigation was accomplished in Assyria by hand and swinging beams (*κηλωρηῖουσι*). Cf. Erman-Ranke, *Aegypten und Aegyptisches Leben im Altertum*, Tafel 35, 1.

¹⁵⁸ REN 4: 3.

¹⁵⁹ Paterson, *op. cit.*, pls. 10, 11, 24, 25, 26, 51, 92, 93.

¹⁶⁰ REN 41: 8, 14; cf. SBD p. 73, note 84.

¹⁶¹ King, *A History of Babylon*, p. 178 f. See Xenophon, *Anabasis* I, v, 10.

exactly as shown in Figs. 55 and 61—and pull with a rhythmic tread. That Babylonian sailors used the same method is indicated by a cuneiform text which states that money was paid to hired laborers to draw (*šadādu*)¹⁶² ships to Sippar. On the Bronze Gates of Balawat¹⁶³ is a scene (Fig. 61) which depicts the pulling of boats by men. It is significant that the Sumerian word for sailor is *MĀ-LAH*, which is composed of *MĀ* (Fig. 51, c),¹⁶⁴ the sign for ship, and *LAH*, the sign for foot (Fig. 51, d)¹⁶⁵ reduplicated.

C. Survivals of Architectural Types.

It may be stated as a principle that the artistic mind of man accords in large measure with his conception of architectural forms. Skill in design and execution is stimulated by the exigencies of a developing civilization. In spite of this law certain fundamental structural types have a tendency to persist. This is due to the fact that man in the early historic period already knew those simple and basic rules of construction and decoration which cannot be discarded however far the race progresses. In the southern part of the Tigris-Euphrates valley, where the Sumerian culture took root and flourished, there was no great diversity of substances which could be used in the erection of dwellings. The alluvial plain furnished no stone or hard timber, but reeds and clay were present in great abundance. This limitation in the variety of building material and the character of that which was available had no little effect in determining architectural styles which have lasted until the present day.

The Reed Hut. The most primitive form of shelter used by the Sumerians and Babylonians was the reed hut. An intimation of its antiquity is the earliest known cuneiform sign for house (Fig. 51, e)¹⁶⁶ which consists of a

¹⁶² *AENN* 350. See *ibid.*, p. 34.

¹⁶³ Unger, *Zum Bronztor von Balawat*, Tafel I, Na. Note *ibid.*, p. 37. Two boats are being drawn, but only one is shown in Fig. 61.

¹⁶⁴ *OBW* No. 137.

¹⁶⁵ *OBW* No. 207, the common meaning of which is "go." The *LAH* sign (*OBW* No. 208) means "go," "follow," "carry," "bring," "pull." See Bezold, *Babylonisch-Assyrisches Glossar*, p. 253, under *radā*, which is one of the Semitic equivalents of *LAH*. Prof. H. M. Hubbell of Yale University has called the writer's attention to the expression *navales pedes* for "sailors" in Plautus, *Menaechmi*, I, 350.

¹⁶⁶ *OBW* No. 281. See Fig. 51, f, for another Sumerian pictograph for "house" (*OBW* No. 147), which may represent a clay tower-like structure similar to the towers shown in Figs. 21 and 69. Cf. Woolley, *The Antiquaries Journal*, 6, 4, p. 381 f, for the description of an "arched cabin of reed matting" upon a boat, carved upon a stone, found at Ur, going back to the First Dynasty of Ur. See *ibid.*, pl. LII, b, b.

rectangular enclosure with crossed lines suggesting reed construction. In this connection the frontal arrangement of the reed hut shown in Fig. 62 is interesting. Reeds grow as luxuriantly in southern Mesopotamia now as they did in ancient times, and the main use to which Arabs put them is in the erection of dwelling-places. The hut built entirely of reeds is more common among Arabs whose habitat is in the marshes, but examples of it occur elsewhere. The ordinary abodes of this type furnish little more space than is required by a few Arabs in sitting around a fire. A more pretentious reed house is built by many a sheikh to be used as a general reception and entertainment hall for strangers. Arches formed of long reeds tied firmly together in strong bundles are erected a few feet apart. Slender bundles of reeds are tied to the arches as rafters. The top and four sides of this rectangular framework are covered with layers of thick matting, leaving openings at each end, the larger one being the main entrance. The whole structure is extremely firm and compact (Fig. 62).

Clay Structures. The easiest way to build a wall is to mold portions of clay by hand and to place these irregular lumps in position at once. Excavations at Ur have revealed a similar method of construction.¹⁶⁷ Arabs in 'Irâq still use this method, as well as the plastering of a rude framework of sticks or reeds. The next step was the formation of clay into uniform bricks. Some of the earliest bricks that have been found are plano-convex in shape. They evidently represent an intermediate stage between lumps of clay and entirely flat bricks. Sun-dried bricks were made of pure clay or of clay mixed with straw. An interesting cuneiform inscription (VS VI, 224) is a receipt for bundles of straw to be used in the manufacture of bricks. This composition is used today by 'Irâq Arabs in building walls. The firing of bricks was also practiced in antiquity. Examples of well-burnt bricks are found at many mounds and there are cuneiform texts which refer to the burning of bricks (e. g., *REN* 34: 6; 97: 4). It is probable that the ancient process of making bricks in Mesopotamia was no different from that used at present. One workman bends over a board and kneads lumps of clay. After each lump is thoroughly kneaded it is handed to a man sitting on the ground who places the lump into a mold and then sets the molded brick out to dry. Some buildings are of solid clay with conical or dome-like tops. Others have side walls of clay with curved roofs of reed matting supported by reed arches. A flat roof (Fig. 63) is constructed by resting beams made from the trunks of palm trees upon clay or brick walls. Rafters formed of bundles of reeds are placed across the beams. The rafters are surmounted with reed matting and

¹⁶⁷ Woolley, *The Antiquaries Journal*, 6, 4, p. 386.

the outside is covered with a thickly-plastered layer of clay. The heavy palm-trunk beams usually protrude a little beyond the building's exterior. It is likely that the same kind of roof was used in ancient times.

City Strongholds. The strongholds of sheikhs in southern 'Irâq furnish interesting architectural types. The rectangular base with a heavy round tower at one end (Fig. 68) and the pylon-like structure (Fig. 69) should be noted. A more striking type is shown in Fig. 64. Constructed of burnt bricks it presents an appearance of unusual stability with its sloping sides. Fig. 65 shows a building of ordinary clay walls constructed along similar architectural lines. The staged character of the upper part of these buildings is a strong reminder of antiquity. Comparison should be made with the old Sumerian pictograph for city (Fig. 51, g).¹⁶⁸ It has been thought heretofore that this sign depicted the plan of a Sumerian city. However, it may signify that a city was distinguished from ordinary villages because it had buildings of the shape indicated rather than ordinary reed huts or crude clay dwellings. In an ancient sketch, supposed to be of the city of Susa, buildings of such shape are portrayed (Fig. 67).¹⁶⁹

Panel Ornamentation. The Arab strongholds shown in Figs. 64 and 65 exhibit an ancient mode of wall embellishment, variously described as "recessed panels," "horizontal zones," "rectangular niches," and "shallow buttresses." It is a remarkable fact that recent excavations of early Sumerian centers of culture have revealed the same design in architectural ornamentation. Ur and Tell el-Obeid furnish examples of it as old as the third and fourth millenniums B. C.¹⁷⁰ The ziggurat at Ur (Fig. 66) with its sloping sides and pronounced panels is the best ancient example of the builder's art which has persisted in present Arab structures in southern 'Irâq. This type of mural decoration can be traced through Assyrian, Neo-Babylonian, Parthian, Sassanian, and Abbâsid periods, thus assuring sequence in Mesopotamia from

¹⁶⁸ OBW No. 39.

¹⁶⁹ Montelius, *Die Älteren Kulturperioden im Orient und in Europa*, p. 271, Fig. 929; Perrot and Chipiez, *Histoire de l'Art dans l'Antiquité*, p. 758; Maspéro, *Ancient Egypt and Assyria*, p. 327. Cf. Paterson, *op. cit.*, pl. 65-66. It is probable that the artist conformed to Assyrian architectural style in the delineation of the houses, although it is possible that similar houses existed in Susa. Cf. Legrain, *Culture of the Babylonians*, UMBS 14, p. 73, Figs. 17-19 for types of houses depicted upon vases from Susa. See Andrae, *Die Ruinen von Hatra*, 2, Tafel IV, for evidences of Parthian use of towers somewhat similar to those shown in Figs. 64 and 65.

¹⁷⁰ Woolley, *The Antiquaries Journal*, 4, 4, pl. XXXIX, a; *The Museum Journal*, Dec. 1925, pp. 256-259.

Sumerian to modern times.¹⁷¹ Panelling on a modern reed hut in 'Irâq is shown in Fig. 62. One may consider the possibility that this form of ornamentation originated as an architectural device in the primitive reed dwelling of the Sumerians.¹⁷²

Crenelated Walls. Interesting examples of the kind of architectural ornamentation known as crenelation, i. e., the adornment of the tops of walls by means of indentations or notches, were found in the surveyed area. Fig. 70 represents this form of serration at the top of a square tower built of clay. In Fig. 71 the wall of a sheikh's palace appears with rough denticulation. The clay wall of a court with a gateway depicted in Fig. 72 is a good example of ordinary notched decoration. A more refined type of crenelation is shown in Fig. 64. In this case the symmetrical crenelles are capped with a continuous narrow border. In seeking for comparisons in the ancient life of the land one should notice the many varied examples of this type of architectural decoration which may be found in Assyrian sculptures.¹⁷³ It seems that all walls were ornamented with one kind of crenelation or another. One is tempted to think tentatively of the form of the cuneiform ideogram for wall (Fig. 51, h), in which the small wedges crossing the outline of what seems like a tower may be regarded as an attempt to indicate crenelation. It is possible that the position of the sign shown in Fig. 51, h, is more primitive than *OBW* No. 171.

D. Conclusions.

It has been shown that there are not a few practices in lower 'Irâq today which have direct connection with antiquity. Such persistence of ancient forms of Mesopotamian life should be gratifying to students of Sumero-Babylonian culture. A single instance of survival would not mean very much, but related groups of survivals furnish cumulative evidence.

Reasons for Ancient Survivals in 'Irâq. There need be no speculation concerning the reasons for this situation, since the variety of data at our disposal

¹⁷¹ Cf. the writer's article on "Survivals of Sumerian Types of Architecture" in the *American Journal of Archaeology*, 1927, No. 2, pp. 153-159.

¹⁷² See Loftus, *op. cit.*, p. 175 f. After the above was in press Mr. C. J. Gadd, of the British Museum, sent information that the official volume of Tell el-Obeid had appeared and that Mr. Woolley on pp. 67-69 suggests that recessed panels are derived from an original "post-and-mat construction, a wooden-framed building having the spaces between the posts hung over with mats." The writer would add that slender reed bundles, forming a framework as in Fig. 62 with an inner facing of reed matting, produce a similar effect. The new Tell el-Obeid volume has not been received and hence it cannot be quoted fully.

¹⁷³ Paterson, *op. cit.*, pls. 13, 38, 39, 44-45, 80, 83-84, 110.

enables us to trace the influences which have made the southern part of the Tigris-Euphrates valley a valuable reflection of ancient times. It is true that what has lasted to the present day pertains to those basic activities which are controlled to the greatest degree by natural conditions and are therefore most likely to be handed on unchanged. However, it is possible to think of contributing causes. In the first place, considerable stability of life and practice in Mesopotamia for more than two thousand years before our era is an Oriental background which must be kept in mind. Little deviation in Babylonian law¹⁷⁴ and hardly any change in economic conditions¹⁷⁵ are examples of this persisting uniformity, which was affected in no revolutionary way by the most drastic political changes. The factor of Arab contact with Babylonians should not be overlooked. Inscriptions show that Arabia attracted the armies of Assyrian kings as early as the eighth century B. C. and that some of its most powerful tribes became tributary to Nineveh.¹⁷⁶ It is unlikely that they freed themselves so long as the Assyrian empire remained strong. In the closing reign of the Neo-Babylonian kingdom, i. e., in the sixth century B. C., the center of Arabia was dominated by Nabonidus who established his court at Teimâ, thus bringing Babylonian civilization to the Arabs.¹⁷⁷ The chances are that these cultural acquirements persisted in the millennium that followed. At any rate Arabs continued to have contact with the residents of Mesopotamia. Pliny states that the nomadic Arabs of his time were all along the Euphrates as far as the desert of Syria.¹⁷⁸ It is not too much to conclude, therefore, that Arabian conquest and control of Mesopotamia, soon after the rise of Islam, was anticipated by Arab relations with its inhabitants, by Arab acquaintance with its culture, and by Arab intermarriage with its people. Such a racial intermingling would contribute not a little to the persistence of certain elements of the ancient civilization of the land. A geographical factor should be considered. The part of Mesopotamia north of the Persian gulf has been noted for its inaccessibility. When the Sumerians wanted to find asylum from the victorious Semites, they fled to the sea-lands.¹⁷⁹ In the time of Sennacherib fugitives from his wrath sought safety in the marshes of Bit-

¹⁷⁴ The Code of Hammurabi stipulates that anything stolen from a deity (i. e., temple) or palace shall be restored thirtyfold. Cf. Harper, *op. cit.*, § 8. A Neo-Babylonian document (*REN* 123: 1-17) requires the same penalty. Cf. *RECC* 7: 30-50.

¹⁷⁵ The price of a kor of barley varied only 1/10 of a shekel of silver in 2000 years. Cf. *SBD* p. 31, note 28.

¹⁷⁶ Cf. *JAOS* 42, p. 306, and references under note 3, *ibid.*

¹⁷⁷ *Ibid.*, pp. 305-316.

¹⁷⁸ Pliny VI, 125.

¹⁷⁹ King, *A History of Sumer and Akkad*, p. 32.

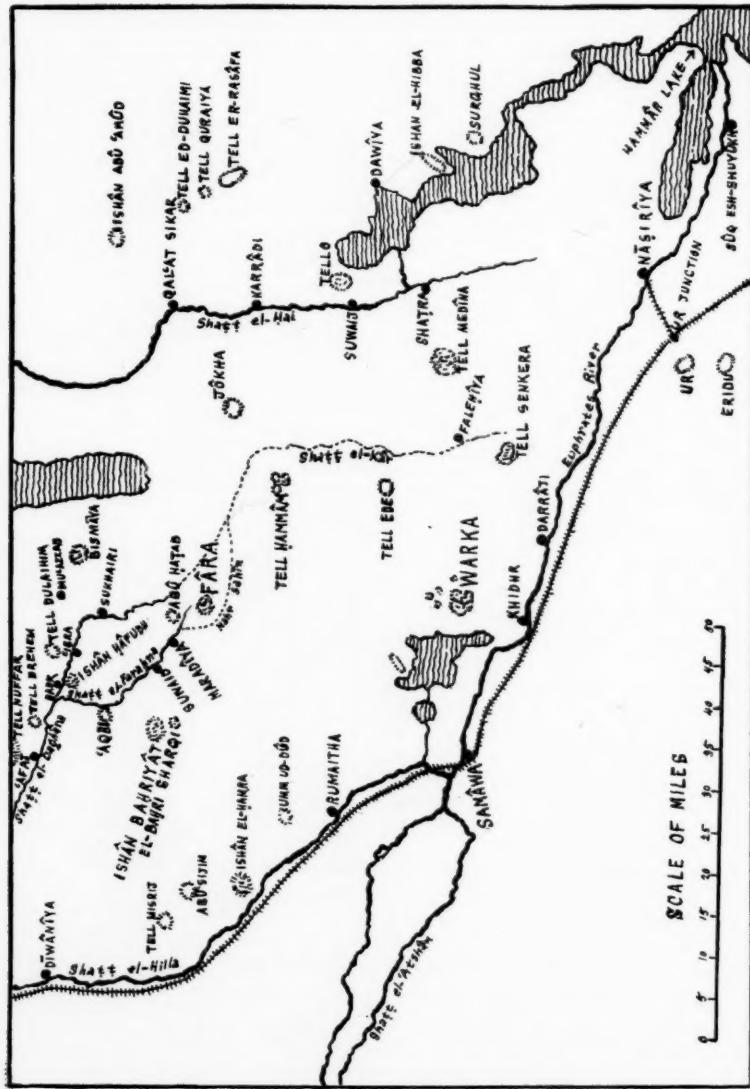
Yakîn.¹⁸⁰ So far as historical data and explorations indicate, the swamps of Mesopotamia received little political attention and hence meager cultural benefit from foreign rule. That the Turks never gained systematic control of the marsh tribes is indicated by the fact that taxes had to be collected spasmodically and with a great show of force. Arabs of southern Mesopotamia seem to have regarded themselves as possessing a certain degree of separateness and this has made the territory occupied by them more isolated and hence less subject to outside influences. The preservation of ancient customs and practices would be helped by such a situation.

The Value of Ancient Survivals in 'Irâq. The preceding discussion indicates that the archaeologist may find no little help in the Sumero-Babylonian survivals which exist in southern 'Irâq. A study of these survivals throws considerable light upon the forms and activities of early life in Mesopotamia, and should aid in the interpretation of the literary and artistic remains recovered from its mounds. Hence, one who is interested in the reconstruction of the elements and expressions of former society in the Tigris-Euphrates valley has at his disposal two sources of information, *viz.*, the antiquities provided by its ruined cities and the types of ancient civilization preserved in its present tribal culture.

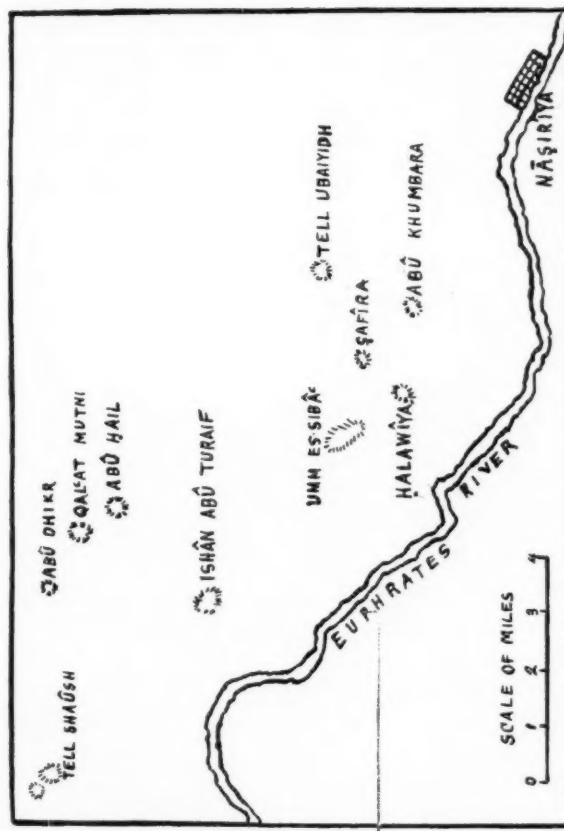
¹⁸⁰ Note the 4th, 6th and 8th campaigns of Sennacherib as recorded in the Taylor Prism and the Prism of the Oriental Institute of Chicago University. Cf. Luckenbill, *The Annals of Sennacherib*, and *Ancient Records, Assyria and Babylonia*, 2, pp. 115-128.



Map 1. The Land of 'Irāq. Shaded Part Represents Surveyed Region



Map 2. Detailed Map of Surveyed Area



Map 3. Mounds northwest of Nāṣiriyā



Map 4. Mounds near Rumaitha and Samawa



Fig. 1. Ruins of Warka



Fig. 2. Excavated Section of Warka



Fig. 3. Portion of Wall around Warka

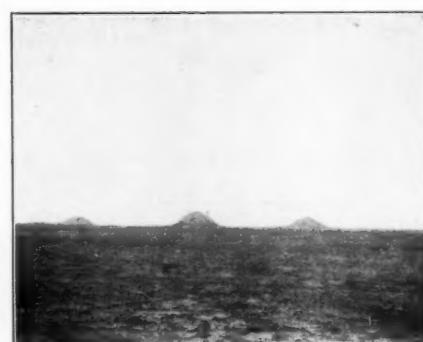


Fig. 4. Three Mounds north of Warka



Fig. 5. Tell Nufajji north of Warka



Fig. 6. Tell Ibrâhîm northeast of Warka



Fig. 7. Flint and Obsidian Artifacts from Warka. One-half Natural Size



Fig. 8. Warka Early Painted Ware



Fig. 9. The Ziggurat at Warka Rising above the Débris



Fig. 10. Nearer View of the Ziggurat at Warka



Fig. 11. Another Approach to the Ziggurat at Warka



Fig. 12. Exposed Projection of the Ziggurat at Warka

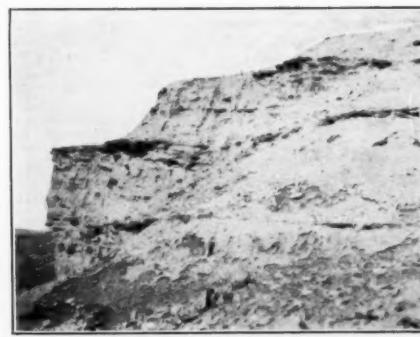


Fig. 13. Scarp of the Ziggurat at Warka



Fig. 14. Portion of the Ruins of Tell Senkera



Fig. 15. A Shallow Pool in the Shatt el-Kar



Fig. 16. The Bastion at Tell Hammām. Reproduced from Peters, *Nippur*, G. P. Putnam's Sons, New York and London.

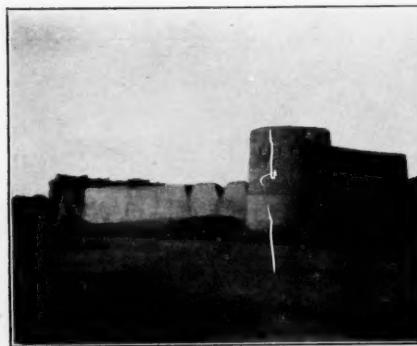


Fig. 17. Deserted Fort at Faleḥīya on the Shatt el-Kar



Fig. 18. The Mound of Earth at Tell Ede



Fig. 19. Excavated Trench at Fâra



Fig. 20. View of Excavations at Abû Haqâb



Fig. 21. Partially-ruined Arab Town at Khanazriya

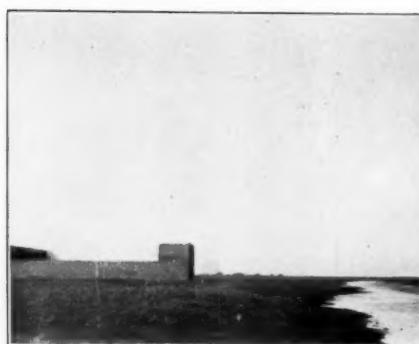


Fig. 22. The Shatt el-Farahna at Maradiya



Fig. 23. View of Nahr Sahîn near Fâra



Fig. 24. A Dry Irrigation Ditch near Fâra

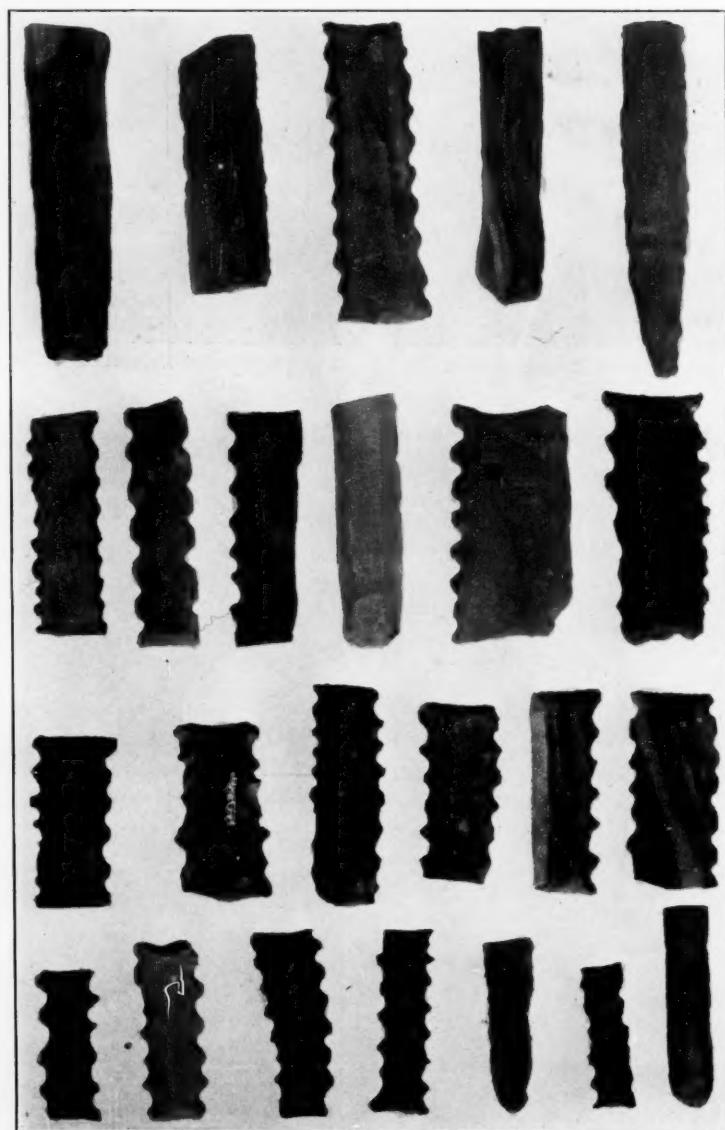


Fig. 25. Types of Stone Artifacts from Fara. Natural Size



Fig. 26. Brick from Ishân Hâfudh Stamped with Ur-Ninurta Inscription



Fig. 27. Types of Clay Bullae from Ishân Hâfudh



Fig. 28. A Scene on the Mound of Bismaya



Fig. 29. Excavated Temple Area at Tell Nuffar

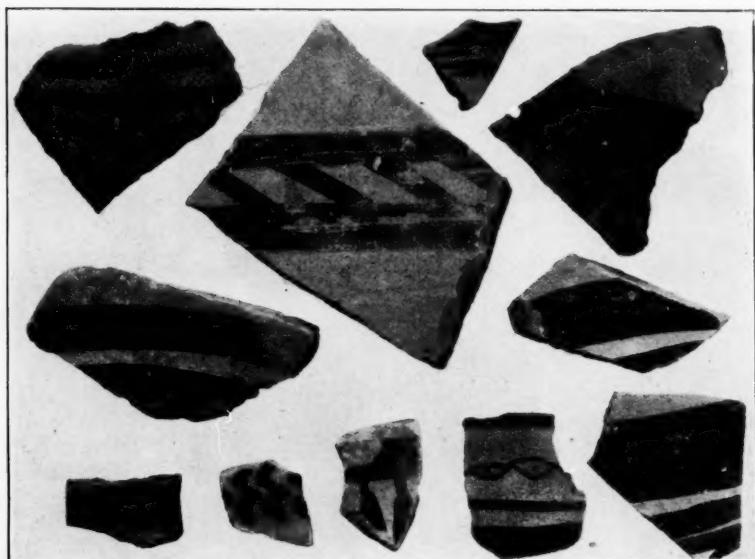


Fig. 30. Early Painted Ware from Tell Nuffar



Fig. 31a. Arrow-head from Warka



Fig. 31b. Arrow-head from Ishân Bahriyât

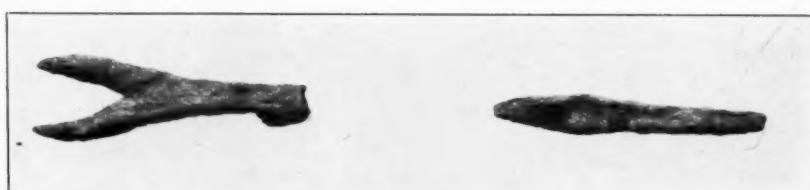


Fig. 31c. Bronze Objects from Ishân Bahriyât



Fig. 31d. Bronze Needle from Tell Medina



Fig. 31e. Beads and Rectangular Seal from Ishân Hâfudh



Fig. 32. Portion of Ruins at Tello



Fig. 33. View of Excavations at Tello



Fig. 34. Door Socket from Tell Medina



Fig. 35. Stone with Hole from Tell Medina



Fig. 36. Door Socket from Ishân Bahriyât

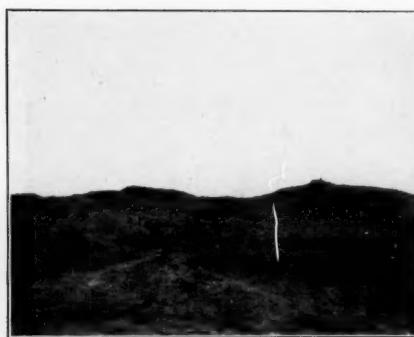


Fig. 37. Portion of Elevations at Tell el-Hibba



Fig. 38. The Most Prominent Mound at Surghul



Fig. 39. Portion of Enlil-bâni Brick from Ishân Bahriyât



Fig. 40. Portion of Bûr-Sin Brick from Ishân Bahriyât



Fig. 41. Bûr-Sin Brick from Tell Medina



Fig. 42. Bûr-Sin Brick from Tell Medina with Part of Inscription Removed



Fig. 43. Finger-stroked Brick from Tell el-Hibba



Fig. 44. Gudea Brick from Tell el-Hibba

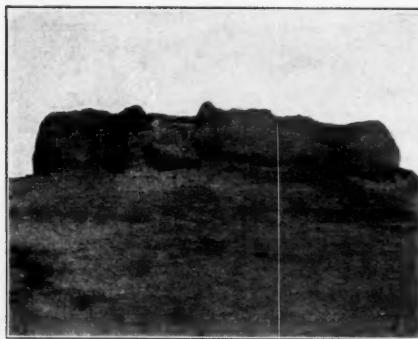


Fig. 45. Arab Ruins at Mu'azzab



Fig. 46. The Mound of Abū Qarn



Fig. 47. The Débris of Tell Sha'ush



Fig. 48. Plowing in Southern 'Irāq



Fig. 49. Preparing Soil by Shoveling



Fig. 50. Arab Peasant Using Hoe

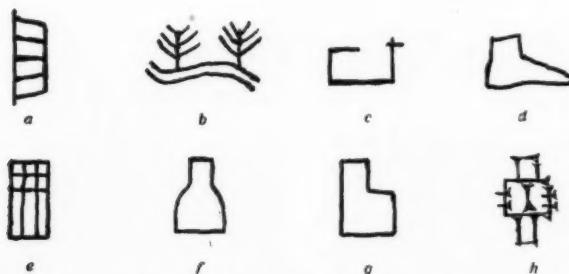


Fig. 51. Early Sumerian Pictographs
 a, field; b, garden; c, ship; d, foot;
 e, house; f, house; g, city; h, wall.



Fig. 52. Date-Palm Garden with Wall and Irrigating Stream



Fig. 53. View of Date-Palm Grove



Fig. 54. Dâliya in Southern Irâq. Reproduced from Harrison, *The Arab at Home*, Thomas Y. Crowell Company



Fig. 55. Assyrian Prototype of Dâliya. Reproduced from Paterson, *Assyrian Sculptures, Palace of Sennacherib*



Fig. 56. Loading Boat in Time of High Water



Fig. 57. Transporting Cattle in Time of High Water



Fig. 58. Sailing over Submerged Area in Southern 'Irāq



Fig. 59. High-prowed Boats of Marsh Arabs

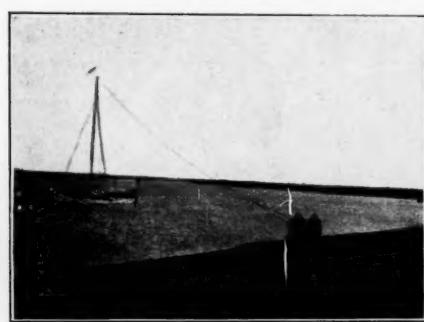


Fig. 60. Pulling Boat on the Euphrates

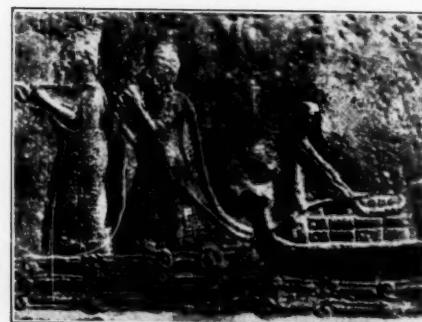


Fig. 61. Ancient Method of Pulling Boat



Fig. 62. Architectural Arrangement of a Reed Hut



Fig. 63. Common Form of Clay House with Flat Roof

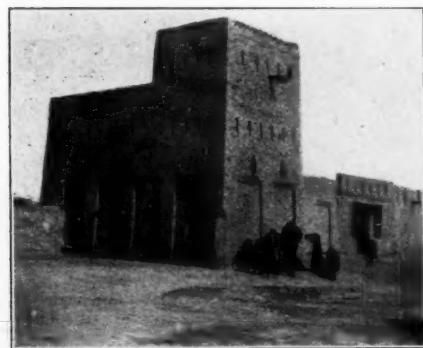


Fig. 64. Brick Stronghold in Southern 'Iräq



Fig. 65. Clay Strongholds in Southern 'Iräq



Fig. 66. The Ziggurat at Ur. Published by Permission of the British Museum and the Museum of the University of Pennsylvania

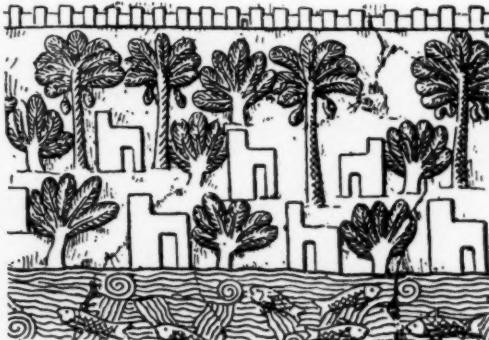


Fig. 67. Houses Depicted by an Assyrian Artist. Reproduced from Montelius, *Die älteren Kulturperioden im Orient und in Europa*



Fig. 68. Fort with Round Tower

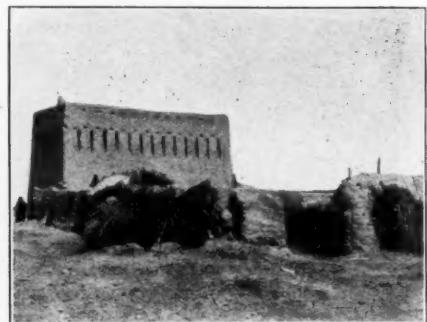


Fig. 69. Pylon-shaped Stronghold



Fig. 70. Crenelated Clay Tower

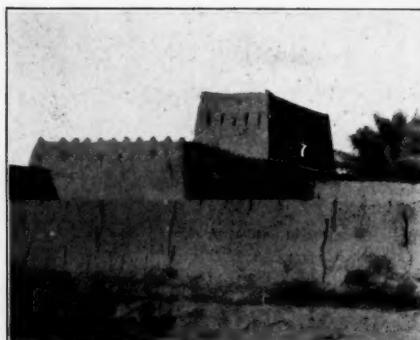


Fig. 71. Sheikh's Palace at 'Ibra



Fig. 72. Crenelated Clay Wall

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THREE LITURGICAL FRAGMENTS FROM THE WÂDI NATRÛN

WILLIAM H. P. HATCH

EPISCOPAL THEOLOGICAL SCHOOL, CAMBRIDGE, MASS.

When I visited the Nitrian desert in February 1923, I found the three fragments published herewith at the convent known as Anbâ Bishôi. I had heard that there were a number of manuscripts at this monastery, and I asked the kindly prior if I might see them. He conducted me at once to an upper room, where I saw a considerable quantity of paper leaves lying about in complete disorder. Some were heaped together on the floor and others had been thrown into a dry pit walled up with masonry. I found no codices of any sort, nor did I discover any parchment leaves among the mass of paper strewn about the room. Anbâ Bishôi, unlike its neighbor Deir es-Sûriâni, has always been inhabited by Copts, and, as one would naturally expect, the leaves which I saw at the former of these monasteries were all taken from Coptic or Arabic books. Many of them, like the fragments printed below, were in Coptic and Arabic. I picked up a few of the despised and neglected leaves, and the prior willingly gave them to me for the asking. The contents of three of them, all in the Bohairic dialect, are reproduced below.¹

FRAGMENT I

This fragment is part of a prayer. It is written on a leaf of yellowish paper measuring 20.5 cm. in length and 13 cm. in width. There is one column of twenty lines on each page. The ink is black and the letters incline slightly to the left. Initials and the letters **Φ**, **χ** (once), **β** and **ζ** are ornamented with red. A short pause is indicated by a point and a longer stop by -·- or -·--. These marks of punctuation, like the ornamentation just mentioned, are red. The only abbreviation which happens to occur is the one that is universally employed for God, viz. **Φ†**. The Arabic translation, which is on the right of the Coptic text, occupies about one-third of the page. The handwriting is of the fourteenth century.

¹ I desire to express my hearty thanks to Dr. Henri Hyvernat of the Catholic University in Washington for the valuable help which he has given me in preparing these fragments for publication.

[ε]λ φή χειμωνινι· ματαλθωογ· -· ηη δε εταγψε
 επψεμμο εβολ یئن نيلادس نورθولوزوس بيمويت
 نفوغ· -· ουοغ ماتاسθωوغر εηη ετε نوغوغ نيمانوفوت²
 یئن ουغىرەنن· -· نيسىن نئم نيسىم· نئم نيانپ
 نتے تفه نئم نيكارپوس نتے پكازى آنۇتۇغ
 επψوي· ماروغاىل· ουοغ نتوغاۋاي
 سموغ επιخالوم³ نتايرومپى ئاي نئم نيسوغاڭ
 چىرەنن· نئم ουالىكەوسۇن· نئم ουغىنۇغى· خاڭ
 ουοغ فورۋوغر ىلخەن پىو ئپكازى· -· ηη εتپى
 مەرۋوغر ننىئىچىا نىپرسفورا· نئم نيكىملاشون⁴
 نتے پىمانەرۋوغرۇغ· نئم نانىمەۋانلىت· نئم
 نىمۇنەخوس· εتالىيىسى· یئن پائىموناشتىرىپون· -·⁵

[whom] God has visited, heal them. And those who have gone abroad from among the orthodox brethren,⁶ lead them and bring them back in peace to the homes that are theirs. The crops and the grass (plural) and the airs of heaven and the fruits of the earth, bring them up; may they grow and increase. Bless the crown of this year and its fruit. Peace and righteousness and abundance, put them and spread them upon the face of the earth. Those who take care of the sacrifices, the offerings, and the vessels of the altar, and the charitable ones, and the monks who have labored for (literally 'in') this monastery.⁷ . . .

² The fragment reads **نۇمەنەۋەتتى**.

³ The fragment, which has been patched at this point, has **نۇغىلۇم**. There can be no doubt, however, that the original reading was **επιχالوم**.

⁴ **كىمەللىشون** is the Greek *κειμῆλιον*, *that which is laid up as precious, a treasure*. Here it denotes the sacred vessels used on the altar. The Arabic translation has **أوانى المذبح**, *the vessels of the altar*.

⁵ The *Euchologium* (Cairo, 1902) contains parts of this prayer. For lines 1 and 2 see pp. **ΣΒ** and **ΡΔ**; for lines 4 and 5 see pp. **ΡΙΑ**, **ΡΙΕ**, and **ΡΙΣ**; for line 7 see p. **ΡΙΖ**; for lines 9 and 10 see p. **ΣΘ**.

⁶ In liturgical works **λαος** means the congregation, who are sometimes referred to as 'brethren' (**κοντόγιον**). The latter word is used in *Euchologium*, pp. **ΣΒ** and **ΡΔ**.

⁷ I. e. in building, equipping, and endowing the monastery.

FRAGMENTS II AND III

Both of these fragments are parts of theotokias.⁸ The two yellowish paper leaves on which they are written once formed part of the same codex, one being numbered **ŃZ** (57) and the other **PIΓ** (113). The leaves are 20 cm. long and 14.5 cm. wide, and the writing is arranged in a single column of sixteen and seventeen lines to the page. The ink is black and the letters are upright. The first word or two of each theotokia, and in one case the first line, are red. Initial **כ** at the beginning of Fragment II is ornamented with yellow, and in both fragments **Φ** and **ب**, and occasionally other letters, are touched with red. The marks of punctuation, viz. **-ׁ** and **-ׁׁ**, are also red. The only abbreviations employed are **Φ†**, **εο** and **εογ**. The Arabic translation is on the right hand side of the page and occupies about one-fourth of the space given to the writing. The words **وَقَفْ دَيْرٌ** and **أَنْبَابِ بِشَهَيْرِ**, i. e. Foundation of the Convent of Anbâ Bishî, are written at the top of each leaf.⁹ These superscriptions are the work of different hands, and both are later than the Arabic translation of the Coptic text. The fragments are of the fourteenth century.

Fragment II is taken from Section vii of the Sunday Theotokia. Both parts of it are "interpretations" (technically known as **εΡΜΕΝΙΑ** or **ΒΩΛ**), Part i being the primary and Part ii the secondary interpretation. In the present fragment Part ii follows immediately after Part i, whereas commonly the hymn or psali (**ZNCOΠ ΜΜΗΝΙ**) intervenes between them. This order is found in certain fragments from Deir Abû Makâr as well as in this one from Deir Anbâ Bishî, and it has been thought to be a Nitrian use.¹⁰

⁸ Cf. Tuki, **ΠΙΧΩΜ ΝΤΕ ΝΙΘ-ΕΟΤΟΚΙΑ**, Rome, 1764; Labib, **ΠΙΧΩΜ ΝΤΕ ΗΛΛΜΟΔΙΑ ΕΘΥ ΝΤΕ ΡΟΜΤΗ**, Cairo, 1908; and O'Leary, *The Coptic Theotokia*, London, 1923. O'Leary gives a transcript of the Vatican *Cod. Copt. xxxviii*, the greater part of which was probably written in the fourteenth century, and certain other MSS.

⁹ In one of the fragments the proper name is spelled **أَنْبَابِ بِشَهَيْرِ**.

¹⁰ The same order appears in the following MSS.: Paris *Bib. Nat. Copt. 22*, Oxford *Bodl. Huntington 256*, London *Brit. Mus. Or. 5644 (3)*, and the fragments found by Mr. H. G. Evelyn White at Deir Abû Makâr and published by Dr. O'Leary (*op. cit.*, pp. 6 f.). The provenance of the MS. in the Bibliothèque Nationale is not known; but the fragment in the British Museum and those from Deir Abû Makâr came from the Wâdi Nâtrûn, and it is not unlikely that the Bodleian MS. was brought from Nitria by Huntington. Cf. O'Leary, *op. cit.*, pp. viii f.

FRAGMENT II

Part i¹¹

семоу† еро дикесос -} ω θη εθογι мария -} χε τмаշѣт
 нскунн -} нтє nh εθоуаь -} θи εтоухн нѣнти -} - нхе
 пиввот нтє ларвн -} - нем тշрнрι εθоуаь -} нтє
 пис-θоиоуqи -} техол2¹² мпитоуво -} саъоун нем савол -}
 ω тскунн нкафарос -} фманшвоти ннлакесос¹³ -}
 нитагма нтє пысі -} нем пхврос¹⁴ нтє ні-омнн -}
 сеерегдоуазин -} ннемакарисмос -} - εθвe фai
 тенбіci

Part ii¹⁵

агмоу† еро -} мария тпар-θенос -} - χе тшрнрι εθоуаь -}
 нтє пис-θоиоуqи -} - εтасфоуф¹⁶ εпвшви -} - лсфири εвол -}
 ѿен θ-ноуни ннитатриархнс -} - нем ннпрофитнс -}
 мфри† мпиввот нтє ларвн пюгнв -} εтадфирi [εвол -}
 аզопт нкарпос -} χе арехфо¹⁷ мпилогос -} азнe сперма
 нрвми -} есой наттако -} нхе тепар-θения¹⁸ -} εθвe фai
 тенфоу нe -} շвс θ-еодокос -} маtго мпевнрi -}
 се-рeqхw нан εвол -}]¹⁹

¹¹ ΣГ (ed. Tuki); РКГ (ed. Cairo); O'Leary, *op. cit.*, pp. 3b and 4a. For a variant of this theotokia see Tuki's edition, pp. НА sq., and the Cairo edition, pp. РД sq.

¹² The fragment has ТЕХФЛ2, which I have corrected to ТЕХОЛ2.

¹³ O'Leary's edition reads НТє НІЛІКЕОС.

¹⁴ ХФРОС is a misspelling of ХОРОС, as صوف of the Arabic translation shows.

¹⁵ ΣН (ed. Tuki); РЛ (ed. Cairo); O'Leary, *op. cit.*, p. 4b.

¹⁶ I have corrected εтасфоуо of the fragment to εтасфоуф.

¹⁷ I have changed АРХФО of O'Leary's edition to АРЕХФО.

¹⁸ O'Leary's edition has ТЕСПАР-θЕНИА, *her virginity*; but ТЕПАР-θЕНИА, *thy virginity*, which is the reading of Tuki and the Cairo edition, is required by АРЕХФО.

¹⁹ The words in brackets have been supplied from O'Leary's edition.

Part i

Thou art justly called, O holy Mary, the second tabernacle of the saints, in which are placed the rod of Aaron and the holy flower of the perfume; thou art clad with purity within and without, O pure tabernacle, the abode of the righteous. The ranks of the height and the chorus of the true ones glorify thy beatitudes. Therefore we exalt

Part ii

Thou wast called, Mary the Virgin, the holy flower of the perfume which sprouted (and) blossomed from the root of the patriarchs and the prophets like the rod of Aaron the priest, which blossomed [and] bore fruit. For thou didst generate the Word without seed of man, thy virginity being intact. Therefore we glorify thee as Theotokos. Pray thy Son to forgive us].

Fragment III, which also consists of two parts, is taken from the Wednesday Theotokia. Part i contains the last third of Section v and Part ii the beginning of Section vi. Both parts conform to the type represented by the Vatican *Cod. Copt.* xxxviii.

FRAGMENT III

Part i²⁰

[χερε πιμήγχον -] ΜΒΑΤΟC ΝΤΕ Τ]²¹ΦΥCΙC -] ετε ΜΠΕ
πιχρωμι ΝΤΕ τεφμεθνογ† -] ρωκ² ΝΣΛΙ ΝΤΑC -] χερε
ΤΒΦΚΙ ΟΥΟΣ ΤΜΑγ -] ΤΠΑΡ-Θ-ΕΝΟC ΟΥΟΣ ΤΦΕ -] ΘΗ
ΕΤΑСДАI СФМАТИКОC -] ыа фи ΕΤΣΙХЕН НИХЕРОУВИМ -]
ъен наi ТЕНРАФI²² ТЕНЕРФАЛЛI -] НЕM НИАГГЕЛОС ΕΘ -]
ъен ОУФЕЛНЛ ΕΝХХW ΗМОС -] ХЕ ОУФОУ ъен НН ΕΤБОСI
МФ† -] НЕM ОУЗИРННГ 2ИХЕН ПИКАЗI -] НЕM ОУТМА†
ъен НИРФМI -] ХЕ АДТМА† ГАР ΝЬН† -] ΝХЕ фи
ЕΤЕФФΩP ΠΕ ПИФОУ ψλ ΕΝЕ2 -] А ФИФТ ХОУФТ -]
[ЕВОЛ ΝΤФЕ ΜПЕФХЕM фи ΕΤОНИ ΗМО АДОУФРП
МПЕФМОНОГЕННС АДСИСАРЖ ЕВОЛ ΝЬН†]²³

²⁰ **PG** (ed. Tuki); **CA** (ed. Cairo); O'Leary, *op. cit.*, p. 36a.

²¹ The words in brackets have been taken from O'Leary's edition.

²² The fragment reads **ΤΕΝΕРФАФI**, which I have corrected to **ΤΕНРАФI**.

²³ The words in brackets are part of the refrain which begins **А ФИФТ ХОУФТ**, and I have added them here.

Part ii²⁴

ΟΥΝΙΩΤ ΠΕ ΠΤΑΙΟ ΜΑΡΙΑ -· ΠΑΡΑ ΝΗ ΕΘΟΥΑΒ ΤΗΡΟΥ -·
 ΧΕ ΑΣΜΠΛΑΝΘΩΨ ΕΡΟΣ -· ΜΦΤ ΠΙΛΟΓΟΣ -· ΦΗ ΕΤΕΡΕ
 ΝΙΑΓΓΕΛΟΣ -· ΕΡΓΟΤΙ²⁵ ήα τερρη -· [Α ΜΑΡΙΑ ΤΠΑΡ -· φαι
 ήαροφ ήεν ΤΕCΝΕΧΙ²⁶ -· ΣΦΟCΙ²⁷ ΕΝΙΧΕΡΟΥΓΒΙΜ -· ΣΤΑΙΗΟΥΤ²⁸
 ΕΝΙCΕΡΑΦΙΜ -· ΧΕ ΑΣΦΩΨ ΝΟΥΕΡΦΕΙ -· ΜΠΙΟΥΓΑΙ ΕΒΟΛ
 ήεν ΤΘΡΙΑΣ -· ΦΑΙ ΤΕ ΙΛΗΜ -· ΤΠΟΛΙC ΜΠΕΝΝΟΥΤ ΤΕ -·
 ΕΡΕ ΠΟΥΝΟΦ ΝΤΕ ΝΗ ΕΘΥ ΤΗΡΟΥ -· ΦΩΨΙ ΝΥΡΗ
 ΝΥΗΤΣ -· Α ΦΙΩΤ ΧΟΥΓΨΤ] [ΕΒΟΛ ΝΤΦΕ ΜΠΕΩΧΕΜ
 ΦΗ ΕΤΟΝΙ ΜΜΟ Αρογψρπ ΜΠΕΩΜΟΝΟΓΕΝΗΣ Αρβίσαρζ
 . ΕΒΟΛ ΝΥΗΤ]²⁹

Part i

[Hail, the living bush of the] nature of which the fire of his divinity burned nothing. Hail, the servant and the mother, the virgin and heaven, who bore in bodily form him who (sits) upon the Cherubim. In these things we rejoice, we sing with the holy angels in joy, saying: Glory in the high (places) to God, and peace on the earth, and good pleasure among men; for he to whom the glory belongs for ever has found pleasure in thee. The Father looked [forth from heaven; he did not find one like unto thee; he sent his Only Begotten One; he took flesh from thee].

Part ii

Great is the honor of Mary beyond all the saints, that she was worthy to receive to her God the Word, whom the angels fear. [Mary the Virgin bore him in her womb. She is more exalted than the Cherubim, she is more honored than the Seraphim; for she became a temple of one of the Trinity. She is Jerusalem, she is the city of our God, the joy of all the saints being in her. The Father looked] [forth from heaven; he did not find one like unto thee; he sent his Only Begotten One; he took flesh from thee].

²⁴ ΡΓ-ΡΑ (ed. Tuki); ΣΓ (ed. Cairo); O'Leary, *op. cit.*, p. 36a and b.

²⁵ The fragment has ΕΕΡΖΟΤ, for which I have substituted ΕΡΖΟΤ from Tuki's edition. The Vatican MS. reads ΕΥΕΡΖΟΤ.

²⁶ O'Leary's edition has ΤΕCΝΕΧΙ, *thy womb*, for which I have written ΤΕCΝΕΧΙ, *her womb*. The latter is Tuki's reading.

²⁷ For ΣΦΟCΙ of O'Leary's edition I have adopted ΣΦΟCΙ from Tuki's edition.

²⁸ I have substituted ΣΤΑΙΗΟΥΤ of Tuki's edition for ΣΤΑΙΗΟΥΤ of O'Leary's edition.

AN UNPUBLISHED GREEK INSCRIPTION FROM 'AMMÂN

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Early in the month of April 1923 I made a short motor trip to Transjordania. One of the places visited was 'Ammân on the upper Jabbok, a modern village which occupies the site of a once famous city and contains some of the most interesting ruins in Syria.¹ 'Ammân was the capital of the Ammonites, and it was known to the Hebrews as Rabbath Ammon. It was called Philadelphia in honor of Ptolemy Philadelphus, and it bore this name during the Graeco-Roman period. When the Decapolis was formed after Pompey's conquest and reorganization of Palestine, Philadelphia became one of the most important cities in the district.

The ruins of several ancient buildings notable for their size and beauty can still be seen at 'Ammân. In the lower town are the remains of the theatre, the odeum, the nymphaeum, and the baths; and on the southern end of the acropolis, which rises to a height of about 360 feet, are the ruins of a temple. Handsome propylaea stood on the main avenue of columns at the point where the ascent to the acropolis began. All these structures belonged to the Roman period, and the remains of them give a good idea of the architectural splendor of Philadelphia in that epoch.

The theatre, which is built on the rocky hillside south of the main avenue of columns, contains three divisions of seats one above the other, and there are sixteen tiers of seats in each of the three divisions.² The theatre is well pre-

¹ See de Laborde, *Voyage de la Syrie*, pp. 99 f.; Conder, *The Survey of Eastern Palestine*, i, pp. 19 f.; Brünnow und v. Domaszewski, *Die Provincia Arabia*, ii, pp. 216 ff.; *Publications of the Princeton University Archaeological Expedition to Syria*, Div. II, Sect. A, Pt. 1, pp. 34 ff.; Barton, *Archaeology and the Bible*, pp. 217 f.

² Cf. Butler in *Publications of the Princeton University Archaeological Expedition to Syria*, Div. II, Sect. A, Pt. 1, p. 48. The plan (Plate IV), however, seems to show fourteen tiers in each of the lower divisions. M. de Laborde (*op. cit.*, p. 99) says that the two lower divisions had fourteen tiers each and the uppermost one sixteen tiers. On the other hand Père Séjourné (in *Revue Biblique*, 1893, p. 143) reports that there are forty-eight tiers in all.

served and is said to be the largest in Syria.³ Estimates of its seating capacity vary from 3000⁴ to 6000.⁵

The inscription here published is on a limestone capital which I found in the orchestra of the theatre. The letters, which are well formed and adorned with apices, are 3.3 cm. in height and are of the type which was in use in the Roman period. Epsilon and sigma are lunate, and omega has the cursive form.

ΝΥΜΦΑΙC
ΚΑΙΜΟΥCAIC
ΚΑΤΤΙΤΩΛΙ . . .
ΜΑΝΕ

Νύμφαις
καὶ μούσαις
καπιτωλί[*vais*]⁶
Μανε[?]
ἀνέθηκεν]

To (the) nymphs
and muses
of the Capitol
Mane [?
set it up].

MANE seems to be part of a proper name. If it was Greek, it may have been MANΕΩΝ or MANΕΩΣ, and the next word would naturally have been the name of the man's father. I can find no other Greek proper names beginning with these four letters. On the other hand, it may have been Semitic, for such names occur very frequently in Syrian inscriptions. However, I have been unable to find any Syriac or Arabic name of which MANE could be the

³ M. de Laborde (*op. cit.*, p. 100) says: "Le théâtre de Philadelphie est sans aucun doute le plus grand de tous les théâtres antiques de la Syrie, et ses dimensions dépassent celles des plus vastes théâtres de la Grèce et de l'Asie Mineure." Cf. also Conder, *op. cit.*, i, p. 35.

⁴ Cf. Conder, *op. cit.*, i, p. 35; Baedeker, *Palestine and Syria* (1894), p. 186 (probably Benzinger's view). In the 1912 edition of the same handbook (p. 147) the number is given as 4000.

⁵ Cf. Baedeker, *Palestine and Syria* (1876), p. 306 (probably Socin's opinion); Séjourné in *Revue Biblique* (1893), p. 143.

⁶ This adjective occurs in two forms: *καπιτωλῖος* and *καπιτώλιος*. Either may have been used here.

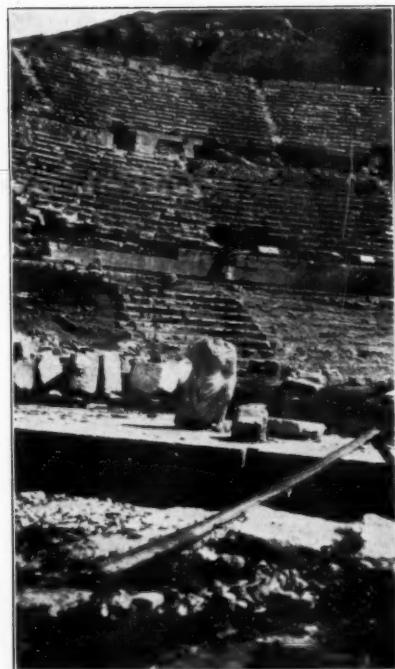
Greek representative. Ma'n (ማን) was a common name in Syria, but it is usually written **MANΟΣ** in Greek.⁷ A Latin name is, of course, *à priori* possible. Manilius, which might appear as **MANEIAΙΟΣ**,⁸ would certainly have been preceded by a praenomen or by an abbreviation for a praenomen; and Manius would not have been transliterated into Greek as **MANΕΟΣ** or **MANΕΙΟΣ**. In regard to the verb it is possible to speak with greater confidence. The inscription is obviously dedicatory, and hence I have supplied *ἀνέθηκεν*.

The work of destruction goes steadily forward at 'Ammân, as anyone can readily see by comparing my photograph of what is left of the odeum with that taken by Professor Butler of the Princeton expedition in 1904.⁹ Many Circassian peasants now live in this region, and when they need houses, they treat the ancient buildings of the country as convenient stone quarries. The limestone capital which contains the present inscription was lying in a conspicuous place in the theatre when I saw it, and it must have been brought there since the ruins were last visited by archaeologists in quest of inscriptions.

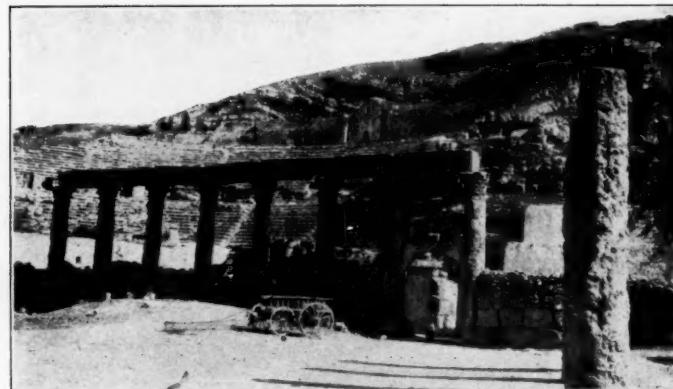
⁷ Cf. Prentiss in *Publications of the Princeton University Archaeological Expedition to Syria*, Div. III, Sect. B, Pt. 2, p. 67. See also Lidzbarski, *Handbuch der nord-semitischen Epigraphik*, i, p. 502.

⁸ Cf. *C. I. G.* 2, 3420.

⁹ Cf. *Publications of the Princeton University Archaeological Expedition to Syria*, Div. II, Sect. A, Pt. 1, Ill. 35 (opposite p. 52).



Section of the Theatre showing a Torso of Heroic Size



The Theatre looking Southeast



Façade of the Odeum

